

THE CULTIVATOR.

NEW

"TO IMPROVE THE SOIL AND THE MIND."

SERIES.

VOL. I.

ALBANY, SEPTEMBER, 1844.

No. 9.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by
LUTHER TUCKER, PROPRIETOR.

ONE DOLLAR A YEAR.

SEVEN copies for \$5.00—FIFTEEN copies for \$10.00—all payments to be made in advance, and free of postage.

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THE CULTIVATOR.

MONTHLY NOTICES.

COMMUNICATIONS have been received, since our last, from Henry Stevens, R. A. Avery, A Friend to Improvement, A Farmer's Wife, Richmond, (2) M., G. F. B., G. B. Smith, Acetosella, Henry Colman, A. J. P., W., C. D., Junius, D. P. Gardner, S., Centre Draught, J. M. Harlan, J. J. Thomas, Doubleyou, H. S. Randall, D., Thos. Affleck, C., A Subscriber, C. F. Morton, G. L. Thompson, A. R. D., W. R. Prince & Co., A Farmer, J. J. T., H. A. Parsons, D. T., (the previous letter not received,) M. D. Coddington, J. P. Norton, T., D., Quere.

It will be seen by the above list, that we have received an unusual number of favors from our correspondents during the past month, for which we beg them to accept our warmest thanks. We think we may say with justice, that few publications of any kind, number so many able contributors as "THE CULTIVATOR." We refer with pleasure to the present number, in which will be found valuable papers from Rev. HENRY COLMAN, England—Mr. J. P. NORTON, Scotland—Mr. THOMAS AFFLECK of Mississippi—Dr. GIDEON B. SMITH of Maryland—Mr. A. L. KENNEDY of Pennsylvania—Mr. S. W. JEWETT of Vermont—and DAVID THOMAS, Prof. GARDNER, Col. H. S. RANDALL, J. J. THOMAS, Dr. A. L. PRIME, R. A. AVERY, and JOSIAH HOLBROOK, of this State, and about a dozen others from different sections of our country.

We are indebted to H. GREELY, Esq. for copies of his pamphlet on "Protection and Free Trade"—To J. P. NORTON, for the Edinburgh Evening Chronicle, containing proceedings of the Agricultural Chemistry Association of Scotland—To G. W. ATWOOD, London, for a copy of his Circular, and for the London Pictorial News, containing an account of the Cattle Show of the Royal Ag. Society, with numerous illustrations—To HENRY STEVENS, Esq. Barnet, Vt. for "The Caledonian," the "North Star," and a list of the Premiums of the Caledonia Co. Ag. Society—To E. C. FROST, Esq. for Premium List of Chemung Ag. Society—To J. R. SPEED, for Premium List of Tompkins Co. Ag. Society—To WILEY & PUTNAM, booksellers, New-York, for a copy of "Chemistry, as Exemplifying the Wisdom and Beneficence of God, being the Actonian Prize Essay, by George Fownes,

Ph. D."—To H. O'REILLY, Esq. for a pamphlet on the "Arts, Sciences and Civilization, anterior to Greece and Rome, by R. W. Haskins, A. M."

"C. D." will accept our thanks for his parcel, mailed at New-York city. Will "C. D." favor us with his address?

SPECIMENS OF WOOL.—We have received from Col. H. S. RANDALL of Cortland, several samples of wool from his flock of Merinoes, which were noticed in our last number. They are certainly good specimens, and will be found "hard to beat." The reader is referred to another page of this paper for a communication from Col. RANDALL, on the subject of the repeated and unprovoked attacks which have been made on his flock as well as those of several other gentlemen. So far as we have learned, the public seem to have placed a proper estimate upon these attacks, which are likely to do much more injury to those who originated them, than to those against whom they are directed. Such statements as that in our last number relative to the produce of Col. Randall's flock, and that of Mr. Avery in our present number, afford sufficient evidence of the injustice of these attacks.

ANALYSIS OF INDIAN CORN.—We are gratified to learn that we are to have a thorough analysis of several of the principal varieties of Indian corn, from the Chemical Laboratory of Prof. JOHNSTON of Durham, our correspondent, Mr. NORTON, having sent out for specimens for that purpose, which will be forwarded to him in autumn.

MERITS OF PLOWS.—We have received a communication from "Centre-Draught," in reference to the remarks of "J. G. B." in the August number of the Cultivator. "Centre-Draught" declares it was not his intention to offer "J. G. B." a "challenge," and says he is "at a loss to conjecture where Mr. B. obtained that idea." "Centre-Draught," however, declares his willingness to meet Mr. Bergen at any convenient place, and have "a day's trial with the plows for love," which the former thinks would be preferable to a contest for "money."

PROFESSORSHIP OF AGRICULTURE.—We are pleased to learn that a Professorship of Agriculture has been established at Amherst College, Mass., and the appointment of Professor conferred upon ALONZO GRAY, author of "Elements of Scientific and Practical Agriculture."

SHEEP HUSBANDRY.—We have had numerous applications for a work on Sheep, which we have been unable to supply from the fact that no such work as is wanted by our farmers, has as yet been issued. The English works on sheep are too expensive, and, valuable as they are, are not what our farmers need. The work on which Mr. MORRELL is now engaged, will, we doubt not, supply this deficiency. It will not, however, be ready for the press before some time in the winter.

MISSISSIPPI.—We are greatly indebted to our friend, J. J. M'CAUGHAN, Esq. of Mississippi City, for his continued efforts to promote the circulation of the Cultivator in that section of country. In our next, we will give such information as we can collect on the subject about which he inquires in his letter of Aug. 3, from which we make the following extracts:—"You can form but little idea of the wretched state of agriculture in this part of our State; but it is improving, and has been for two or three years, and I have little doubt will continue to do so until in ten or fifteen years we can boast of as much

advance in that way as any part of the United States. True, we have a poor soil, but plenty of manure convenient and cheap; a mild, pleasant and healthy climate; all the advantages of sea and land, fresh water and salt, and two of the best markets in the world, New-Orleans and Mobile. I have just taken the 4th crop of grapes off vines of which I planted the cuttings in January 1839, every crop a good one, which I think is conclusive evidence that we have a fine country for vines, &c. Indeed almost every variety of fruit does well here."

INTRODUCTION OF NEW VARIETIES OF FRUIT.—We have been furnished by Messrs. WM. R. PRINCE & Co. of the Linnean Garden and Nurseries, Flushing, with an invoice of "estimable varieties of fruits," sent out to them by the London Horticultural Society in March last, and since extensively propagated by them. The list embraces, fourteen varieties of Apples—sixteen of Pears—eight of Plums—four of Cherries—three of Grapes—four of Raspberries—five of Currants—five of Strawberries, &c. &c. We rejoice at every addition to our choice fruits, the increasing demand for which will doubtless abundantly remunerate our nurserymen for any expense which may be incurred in their introduction.

BUFFALO NURSERY AND HORTICULTURAL GARDEN.—We are indebted to our old friend, BENJ. HODGE, the well known proprietor of this establishment, for a copy of his Descriptive Catalogue of Trees, Plants, &c., just issued, which will be found useful to all purchasers. In times past, Mr. Hodge used to be a contributor to our paper, and we, as well as our readers, would be glad to hear from him again.

CENTER-DRAFT PLOWS.—G. L. Thompson, Esq. of Esopus in this State, thinks, from what he has seen in the Cultivator, that this plow is just the thing that is wanted in his neighborhood, and inquires whether they can be had in New-York or Albany, as they cannot send to Boston for them, and also their price. The manufacturers of them would do well to advertise their price, and where they can be had, in the Cultivator.

GEOLOGICAL SURVEY OF NEW-YORK.—In answer to the inquiry of "D. T." and others, we would state that we are informed that owing to a defect in the law passed last winter, the volumes of this work will not be sent to the county treasurers for sale, as was expected. A law was passed in 1842 or 3, directing the Secretary of State to make arrangements for the sale of these volumes through the booksellers, at \$4.00 per vol. Under this law a contract was made with certain publishers, who were supplied with the first six volumes. The law of last winter made an entire different disposition of the work, directing it to be sent to the County Treasurers, and to be sold at \$1.00 per vol. The previous law, however, was not repealed, nor was any provision made for supplying those who had purchased the first six volumes. The consequence is, that no sales of the work can take place until further legislation is had on the subject.

THE COTTON CROP—LOSS BY THE FLOOD.—We make the following extract from a private letter from our friend, C. A. THORNTON, Esq. of Wilkinson county, Mississippi, dated Aug. 5:—"Our crops of cotton 'in the hills,' as the country off the river is called, I think are very good; they are, I know, in this neighborhood. I commenced picking a week ago, which is earlier than usual, and if we have a favorable fall, I think my crop will yield abundantly. The loss on the Mississippi and its tributaries, is variously estimated at from 250,000 to 500,000 bales. Some medium point between the two, I presume will be near the mark. The loss of property nowever, beyond the cotton crop, in houses, fences, stock of all kinds, and the whole of the corn crop, &c. is very immense. Very many families have not only been turned out of house and home, but every means of subsistence has been swept away by the mighty flood; and what makes the matter still worse, the waters not having subsided, there is no possibility of their making any corn before another year."

MEDICO-CHIRURGICAL REVIEW, edited by JAMES JOHNSON, Physician extraordinary to the late King of Great Britain, and HENRY JAMES JOHNSON, Lecturer on Anatomy at the School of St. George's Hospital, &c. Published by R. and G. S. Wood, New-York. The de-

sign of this publication, is to furnish concentrated practical information relating to Medicine, Surgery, Midwifery Pharmacy, &c. It is issued quarterly. The July number has been received; as usual, it is filled with interesting and valuable matter. Terms, \$5 a year in advance.

Those wishing to purchase a valuable farm in one of the most delightful situations in our State, are referred to the advertisement of Mr. Cox in this paper.

The article on the "Cultivation of Fruit," in "The Agriculturist," for August, should have been credited to "The Cultivator"—also the article on the "Culture of the Strawberry," in the Cin. Atlas of Aug. 15—also "Cutting Bushes," &c. in the Chambersburgh Times of Aug. 19.

Mr. SANFORD's buck Consul, figured in this paper, will, we learn, be exhibited at the State Fair at Poughkeepsie.

HONORARY.—At a meeting of the Indiana Horticultural Society, at Indianapolis, June 29, A. J. Downing, J. J. Thomas, Alexander Walsh, and R. T. Underhill, of this State, were, on motion of Rev. Mr. Beecher, elected honorary members of the Society. At a recent meeting of the Cleveland Horticultural Society, the same honor was conferred upon David Thomas, A. J. Downing, and J. J. Thomas.

THE AGRICULTURIST ALMANAC.—We have a very pretty Almanac with this title, from the office of the Tennessee Agriculturist, Nashville, edited and illustrated by CHARLES FOSTER.

"CHEMISTRY, AS EXEMPLIFYING THE WISDOM AND BENEFICENCE OF GOD, by GEORGE FOWNES, Chemical Lecturer in the Middlesex Hospital Medical School."—This work is a prize essay on the subject indicated by its title. It is arranged under the following heads:—The Chemical History of the Earth and the Atmosphere. The Peculiarities which characterize Organic Substances generally. The Composition and Sustenance of Plants. The Relations existing between Plants and Animals. In the execution of this work, the author has well accomplished his object, and has furnished a treatise most agreeable and instructive, not only in a physical, but also in a moral and theological view. New-York: WILEY and PUTNAM.

NIGHT SOIL.—Our farmers might add materially to their supply of manure, by constructing their privies so as to enable them to make use of their contents. A gentleman from Connecticut informs us that he mixed his night soil with swamp muck, adding a small quantity of lime and ashes, and made manure enough for five acres, which he planted to corn, and that the crop is equal, if not superior, to any one he has seen.

THE HESSIAN FLY, &c.—I was very much pleased with the article in the August No. of the Cultivator, on the wheat midge and Hessian fly. The writer of it is perfectly correct in every particular of the natural history of these insects. I am the more pleased with the article on account of its furnishing another instance of the progress of truth and the dispersion of error. There are few subjects of agricultural discussion that have elicited more attention than this; and I know of scarcely one that has caused the propagation of so many errors of fact, and unsound reasoning. A year or two since I endeavored to contribute my mite to the propagation of information on this subject, through the medium of the American Farmer, and am glad to find that others are doing likewise.

TO PREVENT TEA-KETTLES COATING WITH LIME.—Ellis' Housekeeping made Easy, which by the way is quite unsuited to the republican simplicity which ought to prevail on this side of the big waters, whither the authoress has never yet come, contains the following really valuable preventive of the incrustation of lime on the inner surfaces of tea-kettles, and every thing else of the kind, so often the annoyance of every clever, well-behaved woman:—"Put the shell of an oyster within the vessel whenever it is used, and the lime, instead of adhering to the sides of the vessel, will all be deposited on the oyster shell, which thus forms a nucleus for its attraction. Tried by one of the first women in the world, and found infallible."

J. J. T.

Foreign Correspondence.

LETTER FROM MR. COLMAN.

London, July 19, 1844.

LUTHER TUCKER, Esq.—Dear Sir—I have seen with poignant regret the annunciation of the death of Willis Gaylord, Esq., your colleague in the editorial department of your justly valued and widely circulated journal. If the length of a life is to be measured by its usefulness, his certainly greatly exceeded the common lot. His labors have been abundant, and of eminent utility. To an intellect of uncommon power, he united a corresponding thirst for knowledge. His attainments in science and useful knowledge were unusual; and with these in an eminent degree were associated a refined taste, a clear discernment of the practical and the useful, and a most happy and agreeable talent of communicating to others, what he possessed. He has contributed immensely in the country, to the cultivation of a taste for rural pursuits and pleasures, and for the promotion of agricultural improvement. I wish very much that a selection could be made for publication from his writings, as it would form a book not only of delightful reading for the parlor, but of admirable utility for the public schools; and I should suppose that the Commissioners for forming District and School Libraries, for I believe a Board of that kind exists in the State of New-York, would encourage the publication.

Mr. Gaylord affords one of those beautiful and remarkable examples, which we sometimes meet with, of men contending with heroism against difficulties, and nobly triumphing, where others would despair or sink in idleness and useless repose. It is well known that the diamond in his instance, was set in a very inferior casing: that his person was so greatly deformed as to prevent his going much abroad or mingling much in society. Yet how superior was the tenant to the dwelling; his powerful and well endowed mind, to his weak and deformed body. The very fastening down of the person, appears only to have made the mind more active, more impatient of restraint, more bold and excursive in its flight. Happy is it when our friends can thus depart, giving us nothing to regret but their removal from our intercourse and their cessation from their useful labors; leaving behind them a track luminous with the beauty of virtue and beneficence, and presenting an example in the highest degree encouraging to useful industry, to intellectual cultivation, to perseverance in every struggle against difficulties, and to a life humbly, quietly and conscientiously devoted to doing what good we can, by the means which Heaven affords in the place where it has placed us.

I want through you, my dear sir, to assure my friends how much obliged I am by their kind reception of my First Report, and to express my regret that I have not been able as yet to give them more of the result of my labors. I bespeak their patience. I assure them I am not idle or negligent; and if Heaven spare my life, in due season they shall hear from me as fully as they can desire. I feel it due to them as well as to myself, to make my work as little unworthy of their acceptance as I can possibly render it; but they would not have me recite my lesson before I have learnt it. Even a moderate share of self esteem may persuade a man to think his labors of much more importance than they are; but surely in this case, a proper and grateful respect, which I deeply feel for my patrons, should induce me to perform my work as well as I can, and not to give them what would be the result only of crude and partial observation. I cannot fix any definite time for the appearance of my Reports; but I have no doubt of bringing them very nearly within the time of two years, which was assumed for the enterprise.

I want through you to say another thing to many personal friends to whom I designed and ought to write. I nope to redeem my reputation with them presently; but they will make some allowance for my constant engagements, for a very extensive correspondence both at home and here, and for a mind harrassed with a continual succession of exciting objects. One more thing I am sure

I may assume, that as I never desire to remember an enemy, I am equally certain never to forget a friend.

Yours truly, HENRY COLMAN.

LETTERS FROM MR. NORTON—No. III.

Lab. of Ag. Chemistry Association, }
Edinburgh, July 29, 1844. }

MESSRS. EDITORS—I have lately returned from an excursion through the north of Scotland, with Prof. JOHNSTON. One of the ways by which the Agricultural Chemistry Association seeks to diffuse knowledge is through public lectures. Prof. Johnston, as the officer and representative of the Association, is allowed to accept invitations from those places where a desire for instruction is aroused. In pursuance of this branch of his duties, he has been travelling for the last two weeks, and has delivered lectures in four of the Highland towns.

It would give me much satisfaction to give extended reports of these lectures, admirably adapted as they are to the wants of the agriculturist, but each would require a separate letter, and I must therefore content myself with a mere sketch of the proceedings.

Our first point of destination, was Inverness. This town, having about 12,000 inhabitants, is situated at the head of the Moray Firth, and is in effect the capital of the Highlands. Prof. Johnston was invited there at this time particularly, because it was the period of the great Wool and Sheep market for the north of Scotland. The quiet of Inverness is for a few days effectually disturbed by a concourse of buyers and sellers; the former from the Lowlands and manufacturing districts of England, and the latter from the hills, where some of them can count their 30 and 40,000 fleeces. A singular feature of this Fair is, that although business, sometimes amounting to £300,000 is transacted, not a sheep or fleece is visible. The character of each man's flock is known, and false representations would ruin him ever after.

The Professor delivered three lectures at Inverness, giving, as far as possible within so limited a space, a sketch of the science of Agricultural Chemistry, in connection with instruction upon various important practical points with which it is more or less connected. The first lecture was upon the constitution of soils, and the methods of improvement. Under this head was included a full and most satisfactory argument upon drainage; a simple and concise reference to the principal constituents of fertile and barren soils, and the advantage to be derived from geological knowledge.

The second, was upon the inorganic elements of plants, and included naturally, manures, as the means of restoring or supplying these elements to the soil.

The third, brought into view organic substances. The beautiful analogy between the composition of the soil, the food, and the animal was also explained, and much light thrown upon the subject of feeding.

Though the business of the Fair was engrossing, a respectable audience daily assembled, and listened with marked attention. An enthusiasm was aroused, which showed itself at every public meeting. A breakfast was given to Prof. Johnston at which he introduced the project of an Agricultural newspaper for Inverness, Ross, and the adjoining counties. It was carried by acclamation; an editor at once selected, and a long subscription list procured before noon.

Our next stopping place was at Nairn, the county town Nairnshire. Two lectures were delivered there to a full audience. Some of their peculiar obstacles to successful cultivation were spoken of, and from the satisfied appearance of many a shrewd face, it was easy to see that a new path was opening before them.

We then proceeded to Forres in Elginshire, where but one lecture was given. It was sufficient to arouse the thirst for more, and the stout, hardy farmer who presided, at the close said, "he was sure it had done them good."

The last place was Keith, in Banffshire. A large number of people were together, some coming from a distance of eight & ten miles. The lecture occupied more than two hours, yet I heard one of the farmers say, "he would gladly have listened two hours more." Keith being in a high bleak situation, the advantage to be derived from belts of plantation, to shield the land from the cold wind

and from draining, was dwelt upon, very evidently with good effect.

This tour has most completely confirmed my previous impressions as to the immense increasing influence which the Agricultural Chemistry Association, yet in its infancy, has exerted and will continue to exert on the prosperity of Scotland. My short sketch of our operations and progress, is not more incomplete and general, than was the notice which Prof. Johnston was compelled to take of many most important branches of his subject. As he said, "it was but a commencement," yet that commencement opened to view a fair field beyond; it awakened inquiry, it staggered old prejudices, it gave the farmer a new and elevated view of his favorite pursuit. Thus aroused and encouraged, he will not be content with the mere glimpse afforded him; he will have recourse to books, and all sources of information; his example and success will stimulate others, and thus, as is now the case here, the work will go on with great rapidity. One of the most intelligent and most successful Lothian farmers, expressed in my hearing his firm conviction, that had it not been for the introduction of portable manures, and the suggestions of chemical science, the rents in Scotland must before this have been lowered. Another gentleman after reading Prof. Johnston's Catechism of Agricultural Chemistry, wrote to thank him for having given him a profession.

The Association originated with tenant farmers, and has by them principally been sustained; though some of the proprietors have shown their appreciation of its influence. It has thus a thoroughly practical character, and its officer, Prof. Johnston, from the scrupulous accuracy of his statements, both in public lectures and in his works, continually increases its reputation. The present visit has been to a part of the country where it was but partially known. A large number of new subscribers was obtained, letters asking for information, and soils and manures for analysis are already coming in, orders for books have been sent on, and all things show that an awakening has taken place.

These improvements have been and are going on among the tenantry, who as you know compose the great mass of Scotch and English farmers, and among whom it must be always a painful thought to the improver that these fruits of his toil may at the end of his lease, be the cause of an increase in his rent, or go into the hands of a stranger. What may we no therefore expect when such institutions are founded on our own soil, where the farmer being a proprietor, feels that in reclaiming and fertilizing the soil he is not only increasing his own store, but laying up a rich inheritance for his children also.

Very truly yours,

JOHN P. NORTON.

FOREIGN ITEMS.

By the Acadia, which arrived at Boston on the 18th ult., we received our usual files of foreign papers.

THE CROPS, &c.—The grain crops in England and Ireland are likely to come in pretty well, notwithstanding the fears which had been entertained on account of the drouth. Wheat began to decline on the first of July, and is now 4s. to 5s. per quarter lower than it was four weeks ago.

The "Banker's Circular" says—"It appears to us that the cultivation of wheat has been progressively increasing ever since 1839, and that a greater breadth of land has been applied to the growth of that grain in the British Islands in 1844, than in any preceding year." The same circular further observes, that "a good wheat harvest in England, is usually followed by a good wheat harvest in most parts of Europe. The culture of wheat has been very much stimulated and extended in all those countries from which we have been accustomed to draw our supplies."

From the circular of GEO. W. ATWOOD, dealer in American provisions, &c. London, we learn that there is but little to encourage the shipment of flour from this country, even at the low prices it is now selling here. American pork is said to be firm at prices varying from 40s to 50s. per bbl. in bond. Money is abundant at 13

to 2½ per cent. For cotton, the demand was steady, at a trifling advance.

The papers contain accounts of the late Show of the Royal Ag. Society at Southampton. The Mark Lane Express says it was not equal as a whole to the preceding Shows of the Society, though the remark is intended principally in reference to the exhibition of animals—the show of implements was thought superior. The number of persons that visited the show-yard on Thursday of the exhibition, was thirty thousand. The total receipts for admissions during the Show, were upwards of \$12,000.


LETTING AND SELLING RAMS.—Mr. Jonas Webb, the celebrated breeder of South Downs, held his annual letting of bucks on the 16th July. The services of seven of them were sold at auction for the season, at an average of £31 each—the highest price obtained for any one, was £76, which was paid by the Duke of Richmond.

Mr. Wm. Hewer, the eminent breeder of improved Cotswolds, held his annual sale of rams on the 17th July. A large company was in attendance. Forty-four sheep let and sold, averaged £11; the ten highest priced ones, averaged above £21 each. Several offers, some of which were said to be as high as 80 guineas, were made and refused for a young buck intended by Mr. Hewer for the use of his own flock.

ROYAL PRESENTS.—Prince Albert has presented the Emperor of Russia, with a Yorkshire stallion, valued at 600 guineas, a Durham bull valued at £300, and a full blooded Leicester buck.

POISONED SHEEP.—A flock of sheep has been poisoned by eating "wake-robin," (*Arum maculatum*.) They were induced to eat the plant from its remaining green in a field which was burnt up by the drouth.

NEW WAY TO MAKE BUTTER.—The wife of a farmer saves herself the trouble of churning, by the following contrivance: She ties up her cream in a linen cloth, over which she places a piece of print, and buries the whole in a damp place in the garden for 24 hours; she then takes it up, and turns the cream (which by this time is in the shape and consistency of a pudding) into a bowl, and by stirring it with a wooden spoon, the butter quickly separates from the butter-milk, and is said to be sweeter than that produced by the ordinary method.

 **How many pounds of pork will a bushel of barley make?** An English farmer says: The fattening of hogs is profitable when a pound of green bacon, when it is first dried, is worth more than the tenth part of the price of a bushel of barley, for a bushel of barley is supposed, with good management and a good breed of hogs, to produce 10 lbs. of bacon.

EXPERIMENTS IN CHEESE MAKING.—Sulphuric acid, it is said, will produce a larger proportion of curd than rennet. Professor Traill has made some experiments on this subject. He thinks, from the trials he has made, that the acid will not answer—it communicated an unpleasant taste and smell to the cheese.

AGRICULTURAL COLLEGE IN ENGLAND.—From our English papers we perceive that such progress has been made, that the establishment of this institution is considered certain. The Society, it is said, has now resolved itself into a tangible shape, and will immediately commence operations. *Port Farm*, consisting of about 400 acres, within one mile of Cirencester, the property of the Right Hon. Earl Bathurst, has been fixed on as the site for the example farm.

SOWING MACHINE.—T. Sullivan, in his "Sketches of East Lothian Husbandry," published in the Agricultural Gazette, thus describes a machine for sowing grain and grass seeds.—"A machine very extensively used in this county, is that for sowing corn and grass seeds, broadcast. Its great recommendations are, the regularity with which it distributes the seed, the saving thereby effected, and in remedying the inconvenience and loss of seed arising from sowing with the hand during high winds. The machine consists of an oblong box, 18 to 19 feet in length supported upon a frame-work on three wheels. A revolving horizontal spindle, with pinions in the inside of the box, scatters the seed. Clover and grass seeds are now rarely sown by hand; this machine being peculiarly adapted for sowing such small seeds, and obviating the dif

ficulty always experienced in distributing the small allowance usually given per acre, especially during winds, when from the lightness of the seeds, they are liable to be blown away." Would not such a machine be exceedingly useful in this country?

EXPERIMENT WITH CHARCOAL AND SALT.—The Earl of Essex gives an account in the *Agricultural Gazette*, of an experiment made by him with charcoal, and charcoal combined with salt, applied to turnep-seed at the time of sowing. In the first case, the seed was mixed with twelve times its bulk of charcoal dust. In the second case, the seed was mixed with five times its weight of salt, and nine bulks of charcoal; and in the third case, the seed was put in alone. The ground was very dry and parched, but the seed where the charcoal, and the charcoal and salt, was used, came up in five days. The plants where the clear charcoal was used, however, grew much the most rapidly—where nothing was used, the plants came up badly, and after they were up, did not grow near so fast as the others. The Earl also tried the same application of charcoal with the seed of the Belgian carrot, which vegetated several days sooner than carrot seed usually does, even under favorable circumstances. He also sowed one row of turneps with double the quantity of salt above mentioned, which totally destroyed the seed. Nothing but the substances named were used, and the Earl thinks that the quick vegetation and rapid growth, was attributable to them.

TRIAL OF PLOWS.—In a late number of the *Cultivator*, we mentioned that Mr. Colman had presented to the Council of the Royal Ag. Society, two American plows—one of which was the Centre-Draught plow from Prouty and Mears, and the other the Eagle plow from Ruggles, Nourse and Mason. These plows were tried in connexion with several English plows at the late show at Southampton. In reference to the trial, the editor of the *Farmer's Magazine* says,—"The contrast between the working of these trans-atlantic plows and the English ones was most striking, and was the most perfect practical refutation to the self-congratulatory remarks of Daniel Webster, who, on his return from England, stated that he had not seen any implement in England worthy of comparison with those of America. We particularly examined the work of these plows, and compared with the level and accurate furrows made by the English plow, which appeared as though cut out by a plane, were coarse, rough, and irregular. The work of the competing plows, with the two exceptions we have alluded to, was generally good, especially so, considering the state of the soil."

We know not how much justness there may be in these remarks, but would suggest that our agricultural societies test the two kinds of plows mentioned, as well as others, with the best English ones. At the late trial at Southampton, the first prize of £10 and a silver medal was awarded to Messrs. J. R. and A. Ransome. The same gentlemen also carried a prize for another plow calculated for turning furrows at an angle of 45 degrees. These Ransome plows have long been celebrated. In our Feb. No. (page 44) we spoke of one of them in possession of Mr. Noble, near Massillon, Ohio. We have witnessed the operation of that plow, and are certain that it is a very superior implement, both as regards the complete execution of the work, and its lightness of draught.

AGRICULTURAL CHEMISTRY ASSOCIATION.—We acknowledge the reception of a number of the *Edinburgh Evening Courant*, containing an account of the last meeting of the subscribers to this association. We had prepared an abstract of the doings of this meeting, but the necessity for its publication, seems to be superceded by the nature of the contents of Mr. NORTON's letter, which, it will be seen, furnishes a most interesting sketch of the progress which the Association is making, and the favor with which it is regarded by the practical farmers of Scotland.

GUANO.—It would appear from Lloyd's List, that not fewer than one thousand ships have sailed from various ports in Great Britain for guano. Thus, no sooner does a new avenue for trade present itself, that it is instantly glutted.

CATTLE SHOWS THIS SEASON.

New-York.—State Fair at Poughkeepsie, Sept. 18, 19—Dutchess Co. at Washington, Sept. 12, 13—Rensselaer, at Troy, Oct. 2, 3—Chatauque, at Jamestown, Sept. 25, 26—Onondaga, at Syracuse, Oct. 2, 3—Chemung, at Havana, Oct. 2, 3—Montgomery, at Fonda, Oct. 11, 12—Orange, at Goshen, Oct. 23—Columbia, at Hudson, Oct. 1—Erie, at Buffalo, Sept. 25, 26—Genesee, at Batavia, Sept. 25, 26—Cortland, at Homer, Oct. 2, 3—Ontario, at Canandaigua, Oct. 2, 3—Wayne, at Lyons, Oct. 28—Monroe, at Rochester, Oct. 8, 9—Orleans, at Albion, Oct. 3—Cayuga, at Auburn, Oct. 9, 10.

AMERICAN INSTITUTE.—The annual Fair of the Institute commences on the 7th, and closes on the 18th October. The Silk Convention will be held on the 9th and 10th. A Convention of Farmers and Gardeners is to be held on the 11th and 12th, to take such measures as may be deemed advisable to promote their interests, and particularly to urge on Congress the necessity of establishing a National Bureau or Board of Agriculture. All Ag. Societies are requested to send delegations to this convention. Plowing Match, Oct. 15. Exhibition of Cattle, &c. on the 16th and 17th.

THE TOMPKINS CO. AG. SOCIETY hold their Fair at Ithaca on the 4th and 5th of Oct. Taking into view the intimate connection between the farmer and mechanic, this Society have offered a large number of premiums for the products of the workshop, such as carriages, carts, harness, saddles and bridles, chairs, axes, boots, shoes, barrels, pails, firkins, cabinet work, &c. &c. These premiums will interest the mechanics in the Fair, and can hardly fail to add materially to its interest. It would undoubtedly be good policy for most of our Ag. Societies to adopt a similar course.

Massachusetts.—State Show at Worcester, Oct. 9, 10—Hampden, at Springfield, Oct. 16, 17—Middlesex, at Concord, Oct. 2.

Vermont.—Caledonia, at Danville, Oct. 3.

South Carolina.—State Show at Greenville, Sept. 11—Newberry, Sept. 25.

Pennsylvania.—Philadelphia, Oct. 16, 17.

Ohio.—Hamilton, Sept. 19, 20—Coshocton, Oct. 25.

Delaware.—Newcastle, at Wilmington, Sept. 11, 12—Address by that veteran in the cause of agriculture, J. S. SKINNER, Esq. of Washington City, who we are gratified to learn will be present at our State Fair.

FARMERS' CLUBS AND DISTRICT-SCHOOL LIBRARIES.

The formation of Farmers' Clubs, we consider one of the best means of eliciting and disseminating valuable information on agricultural subjects. They are becoming common in England and Scotland, and several have already been formed in this country. The meetings are held periodically—weekly, semi-monthly, or monthly, as suits the convenience of the members. Subjects of a practical nature are given out at these meetings, and each member gives his views in regard to them. Questions touching the relative value of different crops for different soils or locations—the relative profits of different animals—the soil, and mode of cultivation best adapted to different crops, are here discussed, and the experience and practice of each one is made known. By a comparison of the theories and practices thus brought forward, those which are most consistent and reasonable, can hardly fail of being perceived and adopted. An idea possessed by one, is made known to all—may be subjected to a practical test—if erroneous, it is shown to be so—if correct, its usefulness is general.

It seems to us that the District-School Libraries of this state, might form an excellent nucleus for Farmers' Clubs. A portion of the books in these libraries ought to be such as would assist the farmer in the investigation of the principles, and the adoption of the best system of agriculture. The places where these books are kept, would be proper places for holding the meetings, and the contents of the books might frequently constitute topics for discussion. We recommend these suggestions to the attention of our readers.

IMPROVING LAND BY GREEN MANURES.

It is believed by some, that the best kind of vegetable growth for turning in, in the form of green manures, is Indian corn sown broadcast. If it be intended to apply lime to the land, it would be well to do so the fall before. Then as early in the spring as circumstances will permit sow corn broadcast, say three or four bushels to the acre, and as soon as it has grown as high as it can be conveniently turned under with a deep working plow, turn it under, and immediately sow another crop in the same way, turning that under as before, but with a medium plow run crossways of the previous furrow. In the middle and southern states, three crops can thus be turned under in one season. It is believed that no system of manuring or renovation, except the heaviest application of stable manure, can compare with this plan in its results. If the land be very poor the first crop will be very light, but light as it may be it will yet add a considerable portion of the elements of vegetable nutrition to the soil; and thus the second crop will be greatly improved, and the third will be all that can be desired. It is believed that in this way four times as much improvement will be effected in one season, as can be by means of clover in three or four years. For this purpose farmers in the north should use the tall kinds of southern corn, as being of more rapid growth and furnishing vastly more matter for the soil.

LIMING LAND.

In the application of lime to land, it seems to me that one great object is generally overlooked. All the lime intended to be applied in one season is generally spread at once, thus leaving it in a kind of stratum, instead of being, as it ought to be, thoroughly mixed with the soil. Would it not be better to proceed as follows: Suppose you intend to apply sixty bushels to the acre. First spread twenty bushels carefully over the acre of ground; then turn the soil with the heaviest, or rather deepest operating plow you have. Then spread twenty bushels more in the same way, and turn that in with a medium plow passing across the previous furrow. Then spread the remaining twenty bushels, and harrow that in, or turn it under with a light seed plow. This would effectually mingle the lime through the whole depth of the soil. Any one can see the reason of the thing and the advantages of it; the only objection to it being the labor; but that is not more than is requisite to bring the soil into the proper condition for seeding. If wheat or any small grain be intended, then the third application can be made at the time the seed is sown. I do not much like the usual plan of applying thirty bushels one year, and three or five years thereafter thirty bushels more, and so on, unless deficiency of means prevents the whole being applied the same year. The idea generally is, that, like manure, the first application is exhausted or nearly so in three or five years, and that then another application is necessary. I do not think the lime is exhausted, but the small quantity applied having been diffused through the whole of the soil by successive plowings, the soil is not sufficiently calcareous. Now if we apply the whole quantity as suggested above, the soil to its entire depth will have become charged with it; and, if enough is applied I do not believe it will be exhausted in twenty years, if then.

BIG HEAD IN HORSES.

A correspondent, with the signature "T.," of Greenwood, Miss., wishes information on the disease in horses called "big-head." We do not find this disease in any catalogue or treatise at hand, and are not aware that it is known in this part of the country. In the fourth volume of the American Farmer, a writer speaks of having cured it by running a hot iron through the swollen parts. But as little seems to be known in regard to the disease, we give the remarks of "T.," and if others are acquainted with a better mode of treatment, we hope they will communicate it.

"I presume you are acquainted with the disease—its name is peculiarly expressive, so that one could not well

be mistaken, even though he had never seen it before. It is the second horse I ever owned (out of a vast number) that has been similarly afflicted. That case, I believe I cured; but the cure was almost as bad as the disease. I will give it you. After having perforated the enlarged part, or swelling of the bone, in several places with a brace and bit, (hole about 1-8 of an inch in diameter) without as I could perceive, any beneficial effect, I was recommended to make an incision under the skin just or near the top of the swelling, and put in 10 grs. arsenic, put up in thin paper, on each side of the horse's face. This I did, and you may imagine the effect produced in a day or two; the poor horse's head soon assumed a size varying but little from a flour barrel; in time, mortification of the part near where the arsenic was put followed, the whole of which, in about three months sloughed off, and on one side taking part of the bone with it. I left the sore too much exposed, which I believe was the cause of the bone coming off. To cure it, which required a long time, I used only a greasy cotton cloth bound round the head so as to prevent it being rubbed off. This cure is certain I am told, but so tedious, besides being objectionable in other respects, that I will only be tempted to try it again as a last resort."

VALUE OF URINE.—The great waste of manures, (as well as other matters,) is the crying sin of the American farmer. Even the best farmers in this section and in New-England, where greater economy is generally observed in saving manure than is generally practiced in other sections, we seldom find proper means used for the saving of urine, which, when carefully preserved and applied, has been proved of great value. In some parts of Europe, great pains are taken to save and apply this substance in the most profitable manner. In Holland and Flanders, it is said to have been the means of bringing much of the original sandy and sterile tracts of country, into a state of garden cultivation. The Heath and Broom which grows on the poorest soils, are encouraged, till their roots bind the loose and white sand together. These being cut, small patches of diminutive clover are induced, or a few patches of potatoes are planted, when a cow is kept. The urine is collected carefully in a small tank, or perhaps a cask sunk in the earth, and this is the nucleus from which, in a few years, a little farm will spread around. W.

SHEEP OF THE LATE H. D. GROVE.—The wool from these sheep has lately been disposed of at Lowell. It was sold in assorted lots, as follows:—158 lbs. at 85 cents per lb.—361 lbs. at 70 cents—538 lbs. at 62 cents—137 lbs. at 60 cents—197 lbs. at 50 cents, being an average of 68 cents per lb. for the whole. These fine sheep, it will be remembered, are soon to be sold, for the benefit of Mr. Grove's family. For time of sale, &c. see advertisement.

HEDGES FOR THE SOUTH.—MR. AFFLECK, in a letter to the Planter's Banner, speaks of the Cherokee or non-descript Rose, as one of the best hedging plants for the south. He says—"It has but one objection—that it is a vine; and if left to itself will cover a space of from six to ten feet. It is hardy; grows readily from cuttings or seeds; forms with a moderate degree of care, a good fence in three or four years; when well grown is utterly impassable to man or beast; will bear the knife well in pruning, (which necessary qualification in a hedging plant, I fear is wanting in the Maclura,) and forms a beautiful sight all the year round, with its glossy, ever-green foliage. When in bloom, it is indeed most beautiful, with its long wreaths of snow white flowers—the whitest of all white roses. There are miles of splendid hedge of this plant in this vicinity—more than sufficient, one would think in the way of example, to have entirely abolished the unsightly, expensive rail fence, particularly in a country that must soon be void of timber. I am preparing for some miles of it, this fall—but not so extensively as I would if it were not that I am experimenting with another plant that I am confident will form better and more beautiful hedges than even the famed English Hawthorn. It is the 'Microphylla Rose,' (red) a standard, and just the plant for this purpose."

RECLAIMING WET LANDS.

August and September are the best months for reclaiming boggy and wet lands. The first object should be to get rid of the surplus water. Uplands, situated on a hill-side, or where there is some declivity, are sometimes too wet, and in many instances may be under-drained to advantage. In such cases a good mode is to dig ditches, two to two and a half feet deep, and if there are plenty of small stones at hand, fill the drains with them to within twelve or fifteen inches of the surface—put on a few hemlock or pine boughs, or turf with the grass-side down, and fill the ditch with earth. Drain-tiles, made of clay and burnt in a kiln, are made and extensively used in England, and we do not see why they might not be made and used to good advantage in this country. We have a great deal of land in our hill districts, where under-draining might be practiced with great profit. Its effects in many instances would be to render those lands which now produce only a sour, watery herbage, suitable for cultivated crops and artificial grasses. Loosening the sub-soil of such lands by the sub-soil plow, has proved of great utility. It has been practiced very extensively in Scotland by Mr. Deanston, the inventor, (as he has been called,) of the sub-soiling system, and so far as it has been tried in this country, its effects have been equally satisfactory.

In draining bogs, the first step should be to cut off the spring water, which will generally be found to proceed from the surrounding high-lands. Cut the ditches in such a manner as to intercept this water, and convey it to the general outlet. When this is done, it may soon be seen whether transverse ditches, and how many, will be required.

After the ditches have been completed, and the land has had time to settle, the next business will be the extermination of bushes, or any wild growth there may be in the way. If there are "tussocks" or hassocks, they must be cut up with a sharp, strong hoe, made for the purpose, called at the implement-stores, a "bog hoe." If there are alders and other bushes, as is often the case, they had better be pulled up by the roots. If the draining has been well done, the land will be solid enough the succeeding season to bear a team, and a pair of good oxen, with two men, and proper tools, will make rapid head-way in clearing out the roots. A large iron claw, called a root-puller, is very useful for this business. It is a bar of iron, say an inch and a half square, bent round so as to form two large prongs, sharpened at the ends, and with an eye at the upper part to admit the hook of a chain. This claw is fastened into the stools of bushes, and the cattle soon jerk them out.

If the land is free from large roots and tussocks, it may be brought into a fit state for sowing grass-seed, mostly by the use of the plow and harrow. In some parts of the country, a plow is fitted expressly for the purpose. The share is cast in such shape as to admit of a plate of steel being bolted on, which constitutes the point and edge, the whole fitting nicely together. This plate of steel is ground to a sharp edge, and with a sharp steel cutter or coulter, and a wheel at the beam, the plow cuts the furrow with as much exactness as a carpenter would cut shavings with a jointer from the edge of a board. Much of the prairie land in the western country might be worked with such a plow to excellent advantage.

After the ground is plowed, care should be taken in narrowing, and all the subsequent working, that the furrows do not get broken, and the wild grass brought to the top. The ground should be made fine and level before the grass seed is sown.

These lands, though they sometimes produce good crops of grain and vegetables, are generally most profitable for grass. The kinds of grass which usually succeed best on reclaimed bogs, are timothy, (called herds-grass in New England,) and red-top. There are several kinds known under this latter name. One is quite small and comes into bloom considerably earlier than timothy. It is best to sow those kinds of grass together which are fit to cut for hay about the same time, and for this reason we should prefer the larger and later kind of red-top for sowing with timothy.

We prefer August, (though if the weather is favorable the first of September will do,) for sowing these lands to grass—indeed we believe that for the advantage of the grass merely, this is the best time for sowing it on any land. When sown at this time, it escapes the drouth of the first season, has all the benefit of the first rains of autumn, and gets sufficient root to sustain it against the frost of the succeeding winter. It is not ready for the scythe quite so early but will give about as good a crop even at the first mowing, as if sown in the spring. Grass sown in spring, with grain crops, is overpowered and kept feeble by the grain, and if the weather is dry about the time the grain fills, or at the time it is taken off, a large portion is sure to be killed, and the consequence is weeds occupy the ground, and the hay-crop is poor in quality and deficient in quantity.

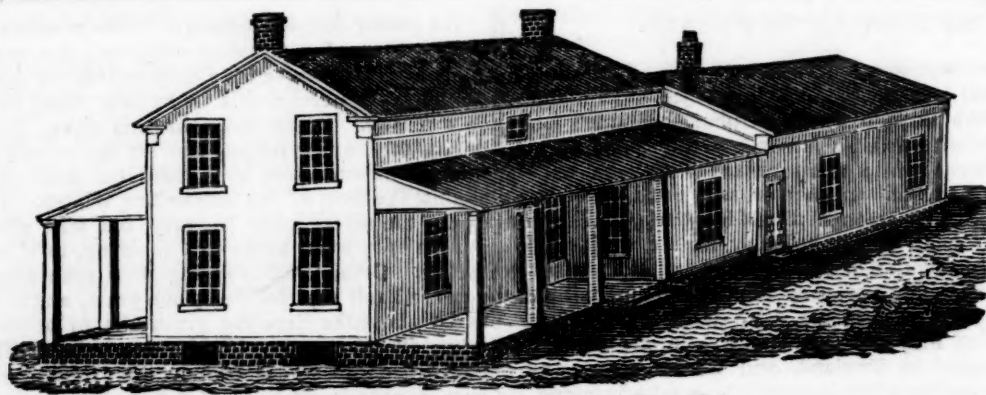
Many reclaimed bogs produce grass of very good quality, in great abundance for several years, without any outlay of expense, except to keep open the ditches, which must always be done. It should be made an object to get a close, thick sward as soon as possible, because this will tend to prevent any foul growth from springing up. When the grass begins to decline, as it will after some time, and rushes and wild stuff begin to come in, take the plow, with the share and cutter as sharp as they can be made, and when the ground is sufficiently dry in August, turn over the sward so smoothly that not a single spire of grass can be seen. Harrow lightly, (lengthwise the furrows,) with a light harrow, sow it again to grass, and pass a roller over the land. It will produce as good crops as before, until, from the natural decline of the grass, it may be necessary to go through the same process again. Experience has proved the success of this plan.

Sometimes the burning of the bushes, roots, and turf of these bogs, has a good effect in preparing the soil for cultivated crops. The alkali is thought beneficial in neutralizing the acids contained in peat. A dressing of common wood ashes has been seen to have a very striking effect in renovating the declining grass on this description of lands.

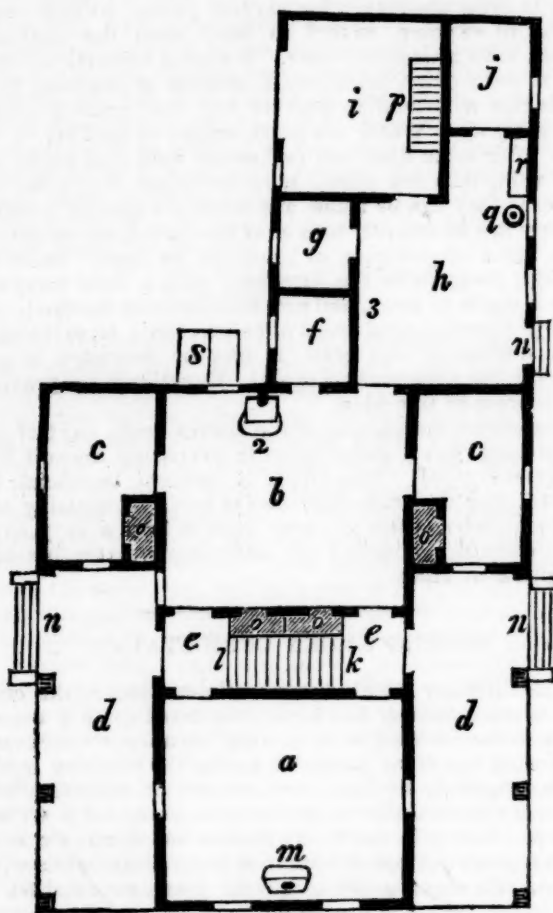
CURING GREEN CORN-STALKS.

The difficulty which has sometimes attended the curing of corn-fodder, has been considered quite a drawback to the advantages of sowing corn for winter feed. In curing hay from grass, we prefer the *sweating* mode as it is called, having practiced it with success. We have never tried this mode for green corn, but a writer (F. M. Butler) in the N. Y. Farmer and Mechanic says he has practiced it with corn to as good advantage as with grass. He recommends to cut the green corn and let it lay in the swarth to dry off the dews or moisture and to become a little heated. As soon as this is done put it up in large cocks or rather into shocks, trample it down close; let it remain in the shocks until it wilts and sweats or ripens, then dry off the sweat and remove the fodder to your barn. He says, "I remember a lot of green corn which for ten days baffled the skill of the farmer to cure it, and which was finally handed over to my care as being incurable. Feeling a firm reliance in the principles that should govern the curing of succulent vegetation for fodder, I proceeded to dry off the dews, and as soon as this was done formed the green corn into large cocks, trampling it down close, although a fine warm sun was pouring down its heat upon the field. The cocks became heated, the corn stalks wilted, but were suffered to remain until the next day, when towards afternoon the sky becoming clear, and a fine breeze blowing, the heaps were thrown open, the stalks dried and taken into the barn perfectly cured. It kept well, and in the winter the cattle preferred it to hay."

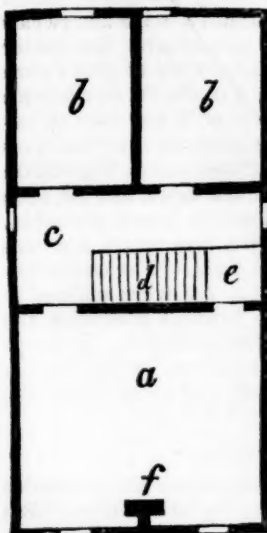
Sensible men and women never sneer at mechanics and others who earn their living by their labor. But self-styled gentlemen and ladies not unfrequently do. We have heard of a "lady" who once left a ball-room because a mechanic entered. She married a basket-maker, and died a wash-woman.—*Exch. paper.*



A PRAIRIE FARM HOUSE—(Fig. 83.)



Ground Plan—Fig. 84.



Second Story—Fig. 85.

A correspondent of the *Prairie Farmer* furnishes the annexed plans for a prairie farm-house, calculated, he thinks, to combine economy, comfort and convenience, with a pleasant and home-like appearance.

It is designed for a southern or eastern aspect, the end fronting to the road. The plan is drawn for a frame house, but may be altered for brick or stone by increasing the thickness of the walls. Its convenience will be seen at a glance. It contains all the room which a farmer in moderate circumstances needs, and there is none that is superfluous. Should any like to build after the plan, who are not able to build the whole at once, the rear part can be put up first, and will answer as a dwelling, by using the meal room as a bedroom. The main building is 18 by 36 feet outside; the

lean-to additions, each 8 feet wide. The rear building is 18 by 25 feet. The posts to the main building are 16 feet; to the piazza, 10 feet; to the rear building, 12 feet. The rooms of the lower floor are 9 feet between floors, the chambers 8 feet. The room *b.* is intended for a dining-room in summer, and the room *h.* for a summer kitchen; in winter, the room *b.* to be used for both purposes. The expense of completing the whole, including cellar under the main part, is estimated at from \$800 to \$1,000, according to location and the material used.

Explanation of ground plan, fig. 84.—*a.* parlor, 17 by 15 feet—*b.* kitchen, 17 by 15 feet—*c. c.* bed-rooms, 8 by 13—*d. d.* piazzas, 8 by 23—*e. e.* entries, 6 feet wide—*f.* buttery, 6 feet square—*g.* milk-room, 6 feet square—*h.* back kitchen, 12 by 13 feet—*i.* wood-house, 12 feet square—*j.* meal-room, 6 by 8 feet—*k.* chamber stairs, 4 feet wide—*l.* cellar stairs—*m.* Franklin stove—*n. n.* steps—*o. o. o.* closets—*p.* wood-house stairs—*q.* pump—*r.* sink—*s.* bulk-head, covering outside cellar stairs—2 cooking-stove—3, place for stove in summer. Drawn on a scale of 16 feet to the inch.

Second story, fig. 85.—*Explanation*—*a.* chamber, 17 by 15 feet—*b. b.* bed-rooms, 12 by 18 feet—*c.* passage—*d.* stair-case—*e.* closet—*f.* drum connected by pipe with stove below.

SMUT IN WHEAT.

A gentleman near Baltimore, has for several years been in the habit of washing his seed wheat in a strong solution of Glauber salts, (sulphate of soda,) with the view of preventing smut, with complete success. He says he makes the solution strong enough to bear an egg, fills a tub half full of it, and then pours in half a bushel of wheat at a time; stirs it round well with the hands, skims off all the floating grains and other foul matters, dips out the wheat with a colander; lets it drain, spreads it out on the barn floor till not quite dry, then rolls it in air slaked lime, and sows it. One man can wash and prepare in this way as much as a dozen men can put in the ground. Every description of foul seeds, garlic and filth, (except cockle,) is effectually taken out of the wheat by this process. He has had no smut in his wheat since he adopted this plan. Glauber's salts can be purchased by the barrel at about one cent and a half a pound. The wheat swells while undergoing the process, about 25 per cent; that is, four bushels will become five. If, after washing, it be left upon the barn floor all night, and thus become dry, it will lose a large portion of its increased bulk. It is better, however, to put it in the ground while somewhat moist, as germination will take place sooner; and the quicker any seed germinates after being put in the ground the better. Besides the great object in view, the getting rid of smut and other impurities, there can be no doubt that a most valuable nutritive and stimulating principle is added to the seed grain, in the soda that is absorbed. Farmers will do well to try the experiment; they may be assured it will do no harm, and it is not very costly, probably a dollar's worth of the salts would be sufficient for fifty or an hundred bushels of seed.

In Smithfield Market, London, there were 180,786 head of cattle, and 1,500,000 of sheep, sold in the year 1839.

THE STATE CATTLE SHOW.

Remember that the great show of the N. Y. S. Ag. Society, will take place at Poughkeepsie on the 18th and 19th of this month. Contracts have been made for the erection of the necessary fences and buildings, which are now nearly completed. The show yard contains about eight acres, thoroughly enclosed with a high and tight board fence. The buildings consist of a Ticket office, outside the enclosure—a Business office, on the line of the show yard—and four buildings inside the enclosure, each about 100 feet by 25—one to be denominated Floral Hall, for the exhibition of fruits, flowers and vegetables—Domestic Hall, for articles of domestic manufacture—Dairy Hall, for dairy products,—and Mechanic's Hall, to be devoted to articles of mechanical skill.

Arrangements have been made for conveying animals and goods by boats from the different places on the Hudson, at moderate charges. The rail road companies, with their usual liberality, offer to bring everything from the west to this city, free of expense; and we trust the owners of fine stock of all kinds, will avail themselves of these opportunities to send large numbers to the show.

We hope, also, that our friends in Connecticut, will gratify their brother farmers of this state, by sending over some teams of their famous and well-disciplined oxen, and other stock. Mechanics and manufacturers, too, will not let this occasion pass, without making a general display of articles in their line, which, being seen by the thousands who will be there convened, cannot fail to be much to their advantage. It is thought that the exhibition will be equal, if not superior, in every respect, to any preceding.

The annual Address, we are happy to learn, will be delivered by the distinguished historian, GEORGE BANCROFT, Esq., of Massachusetts.

CULTIVATION OF LUCERNE.

A 'SUBSCRIBER,' at Strawberry-Hill, North Carolina, asks for some information on this subject.

A deep, rich, and rather light soil, is best for lucerne, and it is hardly worth while to attempt its cultivation on soils of an opposite description. The preparation of the ground consists in deep plowing, and fine pulverization. Any kind of manure suitable for clover, may be used—mixed well with the soil. It may be sown either broadcast, with some kind of spring grain, or alone in drills. We prefer the latter, for the following reasons. When sown broadcast, with or without grain, its growth is much checked, either by the grain or weeds, or by both—if a drouth occurs at the time the grain is taken off, a large portion of it dies, and what remains is so injured that the succeeding winter probably kills it. After repeated trials, we have found it very difficult to get it through the first summer and winter. Unless the weather is very favorable, so much of it dies, that it is left too thin. Having failed some half dozen times in the broadcast mode, we tried sowing in drills with a machine, and succeeded completely: The drills were about ten inches apart, and the spaces were hoed once or twice, by which means the weeds were kept down, and the lucerne grew so rapidly that it was cut three times the first season—only about a month being required between the cuttings, to reproduce a growth of more than a foot in height. It produced at the rate of five tons of hay to the acre.

We should prefer sowing as early in the spring as the ground would admit of, in order that the lucerne might get a start of the weeds. In the broadcast mode, fifteen or sixteen pounds of seed is recommended—in the drill mode, eight or ten pounds, if properly sowed, will be sufficient. There is no necessity of permitting a crop to go to seed, as our correspondent suggests, as the roots are considered perennial—at any rate, they live many years. In regard to the marls mentioned, it would be better to try them, as well as lime, plaster, &c., for the effect of these cannot be positively foretold.

The seed might be had at any of the principal seed-stores of our cities. Its cost is from twenty-five to thirty-seven and a half cents per pound. By the quantity it could probably be had for less.

Lucerne is greedily eaten by all kinds of stock, and it is considered highly nutritive. It may be fed green or made into hay. We know of no plant of equal value for soiling. Its growth commences very early in the spring, and continues without interruption through the whole season. No ordinary drouth affects it in the least, after it once gets fairly rooted. The roots have been traced to the depth of more than three feet in the earth, the first season, when sown in drills. The only cultivation that it requires after the first season, is an occasional harrowing before it starts up in the spring.

CALEDONIA COUNTY, VERMONT.

We have been furnished by HENRY STEVENS, Esq. Barnet, Vt., with several papers in relation to the Agricultural products of Caledonia county, Vermont, of a very interesting character. This county is situated in the northeastern part of the state, its northern boundary being only about 25 miles south of the 45th degree of north latitude. In size it is about equal to 18 townships of six miles square. About four-fifths of its whole territory yet remain a wilderness, there being but 90,456 acres of land improved. From the table of statistics furnished us, we learn that the number of "polls"—that is, we suppose, male persons over 21 years of age—in the county, is 3,756. This would give 24 acres of improved land to each poll. The products of the county, as carefully ascertained from the persons who took the census, would give each male inhabitant over 21 years of age, more than one of oxen and nine head of other cattle—over 26 sheep, fine swine, nearly two horses—more than 228 bushels of grain—nearly 50 lbs. of wool, 284 bushels potatoes, about 18 tons of hay, and over 177 lbs. of maple sugar. The value of dairy products to each poll, is \$57.35, and of family goods, \$22.72.

This statement of actual facts speaks volumes for the credit of the hardy sons of Vermont. There is probably no state in the union where property is more equally divided than in this, and here, with a hard soil and a climate of great severity, we find on an average every man of 21 years, has 25 acres of improved land, from which he produces an abundance of all things necessary for his subsistence and comfort.

Mr. Stevens says—"I have carefully compared the agricultural statistics of Caledonia county with other counties, not only of the New-England, but of the several other states, and I give it as my honest opinion that, when you take into consideration the number of acres of improved land, its appraised value, and the number of inhabitants, there is no county in the United States that produces so much as this. That portion of the population who are engaged in agricultural pursuits, are generally very industrious, economical and persevering in business. Many of our farmer's wives have the credit of making excellent butter and cheese, and have received the highest premiums in the Boston market."

IMPROVEMENT OF SANDY LOAM.

Mr. Eli Harris, of North Carolina, inquires, first—"What is the best method of improving an exhausted, high sandy loam?" Second, "What is the best plan of sowing clover seed?—at what time—how much seed to the acre—the preparation of the ground? &c."

In regard to the first inquiry, we remark, that ashes, clay, or clay-marl, will improve the texture of a sandy soil. Use *urine*, if it can be got, (and it can if you will only *save it*;) in place of coarse barn-yard manures, because the latter makes the land still lighter, and we suppose lightness is already one of its defects. Plow pretty deep—try plaster, and by all means induce as large a growth of clover as possible.

In regard to sowing clover, it does well sown on a moist snow in March, or the latter part of winter. We have known it do well sown with rye in September, and on land not subject to be thrown up much by frost, we do not see why it might not generally do well sown at that time. As to quantity of seed, we should not sow less than six quarts per acre on such land as described, and we presume a *peck* would *do no hurt*. A preparation of the ground suitable for any kind of grain, is proper for clover.

THE CROPS IN MARYLAND.

There has seldom occurred a season of more general success in the grain crop, than the present in Maryland. Wheat and rye have averaged full crops, and have been secured in good condition, and of fine quality. Some few sections have felt the effects of the fly, some very few also those of rust, but there has been less of either than I ever before heard of. In this part of the country we are particularly liable to failure in the rye crop, from the occurrence of heavy showers of rain at the time the rye is in bloom, which washes the pollen from the plant. Whole rye fields are often seen with fine straw and large heads, leading one to suppose that a heavy crop would be harvested; but on examining the heads not a grain could be found in them. Happily, this season that excellent grain escaped the evil, and has yielded finely. The oat crop also has been large, and of excellent quality. The corn crop also promises tolerably fair, though some sections of the state have suffered considerably for want of rain, particularly the Eastern Shore, where corn is the principal dependence. On that shore some farmers will gather but small returns for their labor, the late fine rains having come too late to be of much service. But the crop in the state at large bids fair to be a good average. The potatoe crop also looks very well, though generally too forward for winter use. Should we, this year, escape the disease that affected the potatoe crop so extensively last season, there will be an ample supply. Our hay harvest has also yielded finely, both as to quantity and quality, for Maryland. The quality of our hay is not generally equal to northern hay. I believe the deficiency attributable to the time of cutting and manner of curing. Grass is generally allowed to stand too long before it is harvested. All herbaceous plants should be gathered when in full flower, if we wish to retain all their valuable properties; because, as soon as the seed begins to form, the nutritive principles of the plant, such as sugar, starch, &c. are exhausted in forming them. See how rich a cornstalk is in sugar and starch immediately before the grain begins to fill on the cob; examine the dry corn-stalk after the grain is ripe, and see how little of either will be found in it then! And so it is with hay of all kinds. In this view, all mixed hay should be of such kinds as flower at the same time; otherwise one or the other will be too ripe or not ripe enough at harvest. The process of curing, it would seem, is not properly attended to. Generally the hay becomes bleached, and much of its nutritive properties are lost. It is not uncommon to see hay left in the *swarth*, as the scythe left it, for several days, then simply turned over to bleach the other side by the action of the sun and dew, and left several days longer; and showers of rain that may happen in the meantime, will be so much added to the general effect! A better practice would be, to let the boys with wooden forks, follow the mowers and shake up the grass well, and before the dew begins to fall at night to rake all into winrows; next morning the first work should be to spread the winrows, and turn the hay well; and before night put it into cocks. It will thus be ready for the stack or mow the next day. I am satisfied that a large portion of the value of hay is lost by the manner of curing generally adopted.

All kinds of vegetables and fruits, are abundant, and of excellent quality; and those intended for fall and winter use are very promising. In fine, I never knew a season of such universal abundance and excellence of agricultural and horticultural products, present and prospective, as the present.

DISEASES OF SWINE.—G. L. Cockrill, in the Tennessee Agriculturist, says—"Quinsy attacks fat hogs or all above shoats—the cause I suppose, to be the same that produces it in the human family. My remedy is, to split the neck each side of the wind pipe, some inches long, and an inch or more deep, rub in warm tar or turpentine. staggers or turning round, bleeding freely from the tail or ear, will generally relieve them. Kidney-worms used to trouble me some, but I have had but little of it for two years; pluck out the hair from the loin, rub it well with warm tar, then feed on dough or slops, strongly impregnated with salt and red pepper; the hog should

often be lifted up by the tail and exercised. Hogs' feet become affected some wet seasons, by confining them on green oats; let them have access to some clean hard ground. Water is indispensable for hogs, they can live without for some time, but do not thrive; it is as necessary for the healthy action of the skin, as it is to drink—shade is also necessary in warm weather."

NEW-YORK AGRICULTURAL INSTITUTE.

We have received from Dr. GARDNER, a circular, embracing a sketch of the fundamental principles of this institution, and an outline of the course of instruction to be here pursued. The difficulty of obtaining a course of education suited to the agriculturist, has long been deeply felt by those who have given the subject a proper consideration; but it is only within a short time, that such an extended and general interest has been manifested, as seems to indicate that the time has arrived when institutions designed for this purpose, may be established with a fair prospect that they will be fully sustained.

Dr. Gardner enjoys an extended reputation in this country as a man of science, and under his charge the success of the Institute is confidently expected. We extract the following from the circular.

The subjects of study are as follows:—

AGRICULTURE. This course is designed to communicate all facts in Chemistry, Geology and Botany, useful to the farmer—so that being conversant with the characters and properties of the bodies wherewith he is engaged, he may be furnished with sound principles to guide and improve his culture. The theories of Liebig, Tull, Payen, Boussingault and Saussure will be canvassed, explained where they coincide with practice, and exposed where fallacious. The explanation of all processes, for the improvement of the texture, and drainage of lands, will be made on scientific principles.

Improvements in the orchard, vineyard, and the cultivation of commercial staples, will be detailed. The collection, storage and preservation of grass, grain, fruits—the feeding and improvement of stock; the economy of making manures, will form prominent parts of the course.

Mineral manures found in this and adjoining states, saline, vegetable and animal manures, their comparative values, successful application, and causes of failure, with their economy, will be thoroughly examined and illustrated, by appeal to decisive experiments. In short, all the topics usually embraced in the courses given by professors of agriculture in European colleges will be introduced.

ANALYSIS of Soils, the ashes of plants, and saline manures, forms another principal object of study. The student will conduct these analytical inquiries himself, so as to become proficient.

It will be a constant object to familiarize the pupils with the method of applying principles to practice. To this end a series of cases will be prepared, in which the character of the soil, determined by examination, will be given, to discover the necessary amendments. Thus a specimen of soil being introduced from a field, valuable from its proximity to market, it will be required of the student to point out the means by which it may be brought into a perfect state of fertility at the least expense. Thus they will be prepared to think for themselves and apply the facts of science. Students coming from remote countries should bring specimens of soil from home, to furnish profitable materials for examination during the winter.

The Institute opens on the first Monday of November, and continues in session until the first of March following. Lectures and recitations will take place daily. This portion of the year has been selected to accommodate those engaged in farming, that they may not be drawn from their estates during the busy season.

Fees for the course on Agriculture, \$20. For Analysis, \$30. For both, \$40. The laboratory students will provide their own utensils, which cost about \$5. Full laboratory course, \$100.

For further information, address, post paid, Dr. Gardner, 412 Fourth-street, where students arriving in town, are requested to call.

SOWING WINTER GRAIN.

WHEAT—It is not always easy to tell whether early or late sowing would be most advisable. Early sown grain gets the best hold against the winter, and where it is not liable to attacks from insects, will generally yield best. But it unfortunately happens that the Hessian fly (a description of which was given in our last number) is usually more injurious to *early* than late sown grain; because a generation of the insect is sometimes brought forward in the fall. This is avoided by late sowing. But there is another insect which must be looked out for—that is the yellow maggot, (*Cecidomyia tritici*) also described in our last. This insect attacked the *late* sown winter wheat most, in this neighborhood, the present season, so that we are something in the predicament of the old navigators, who in endeavoring to steer clear of Scylla, were swallowed up by Charybdis. If we sow early and escape the worm in the *head*, (*C. tritici*) we are sure to have the worm at the bottom of the *stem*, (*C. destructor*.) If we sow late it is the reverse. So we see that all circumstances must be taken into consideration in determining the proper time for sowing, and the insect whose attacks are most to be apprehended, must be most guarded against.

Preparation of the ground.—In this operation, regard should be had to protecting the crop from injury during winter. This injury takes place in two or more ways. First—on land where too much water is retained near the surface, the roots of the grain are sometimes thrown out by the *heaving* of the soil under the action of frost, and by alternate freezing and thawing, the plants are left without any hold on the soil, and so perish. Against injury from this cause, we should use all practicable means to prevent water from standing on the surface, or remaining in too large quantities near the roots of the grain, and for this purpose would not only use drains, but should resort to *subsoil* plowing, loosening the earth to as great a depth as possible, thereby allowing the surplus water to descend at once so deeply that the heaving by frost is in a great degree avoided. Second—grain is sometimes injured from the rains and winds carrying the earth away from the roots. This oftentimes injures the crop more than any thing else. The mode of sowing in *drills* is the best remedy against this, which we have seen. The drill mode has, also, other important advantages, such as the security of the crop against rust and mildew. We spoke of this mode in our number for February, in describing the farm-management of Mr. Thos. Noble, under the head of "Farming in the West." The grain is sown very expeditiously with a machine drawn by a horse. The rows are left in a small hollow, so that the rains, instead of washing the earth away from the roots, are constantly bringing a little more over them, which operates as a security both against the winds and frosts. This mode of sowing, is now very extensively adopted in England, where its advantages are becoming every day more and more acknowledged. In that country, the spaces between the rows are sometimes cultivated, either by hand, or by the horse-hoe.

Proper quantity of seed per acre.—We will here give a rule, which, though at variance with some theories, we are quite satisfied is correct—viz. that the richer the ground, the less seed is required. It is the practice with some farmers to sow no more than two-thirds the usual quantity of seed on poor land, while on that which is rich, they sow an extra quantity—in the latter instance they say "the land can bear it," in the first, they suppose it can support no more. These conclusions must have been adopted without very close observation of the operations of nature in such cases. In the first place, there is not much land so poor that nothing will grow, and if it does not produce something *valuable*, it is sure to produce that which is *valueless*; and if grain on poor soils is sown thin, it is overpowered by the more hardy natural growth. Grain will not spread, or tiller, on such soils, and it must, therefore, be sown so thick that the crop may sufficiently cover the ground at *once*, before the wild plants can obtain a foot-hold. In this way, only, can such possession of the soil be secured as to insure from any crop a fair yield. On the other hand, grain-plants on rich

land, have a natural tendency to tiller, and this tendency is always in proportion to the strength of the soil. It is from this cause, that wheat on rich land often recovers from the attack of the fly, while that on poor soils is killed. The strength and vigor of the roots in the former case, continue to throw up new stalks, till after the insect ceases its ravages; but from the want of this energy, the plants on poor soil, perish under the first attack. It is thus evident that poor land requires the most seed.

We are aware that farmers are not agreed as to the requisite quantity of seed, even on the same soils. In different sections of the country, the quantity varies from one bushel to two bushels per acre, and we have not found that this variation is much regulated by any difference in the quality of the soil. We think too small a quantity is *generally* sown. The most successful wheat growers we have ever known, have been in the habit of using two bushels of seed per acre, on land of fair medium quality, and we should in general prefer this quantity to less.

RYE.—The objections against the early sowing of wheat, do not, many of them, apply to rye. The latter is comparatively exempt from attacks of the Hessian fly, and we believe wholly so from the attacks of the wheat midge—improperly called *weevil*. In this latitude, there is no objection to sowing as early in September as is convenient. If it acquires too large a growth, it may be fed off by calves or sheep. Indeed a considerable object in sowing this grain, in some parts of the country, is to afford pasture in the fall, winter, and early in spring, when it cannot be had from grass. In some of the stock-districts of Ohio and Kentucky, it is highly valuable in this respect. Where snow does not accumulate to prevent its being pastured, we know of nothing equal to it for calves, ewes, and lambs, in the fall and winter. But even where snows of considerable depth lie on the ground for months, it is an object well deserving attention for fall and spring pasturage. If animals are only allowed to feed on it when the ground is in a proper state—that is, when they will not poach it with their feet—it may be pastured quite closely in the fall and winter without injury to the yield of grain, and there is no doubt that pasturing sometimes increases the yield. In some parts of the country, it is fed in the spring till grass will afford a "bite." It is then allowed to grow till the grain is filled and begins to turn, when hogs are turned in to eat it. At this stage of the grain, it does not shatter out, and the hogs get it pretty clean, trample down the straw, and leave a good deal of manure. This is considered, in the districts where it is practiced, one of best modes of enriching ground.

Rye requires a lighter soil than is most congenial to wheat. It often does well on quite sandy or gravelly land, where wheat would fail. Wheat is generally more profitable on a soil to which it is adapted than rye, provided it escapes injury from insects. On such soils the yield is equal, if not greater than that of rye. In some neighborhoods where wheat has been injured by the midge for a year or two past, rye is considered a pretty certain crop, and we find many farmers in this vicinity are intending to discontinue, for the present, the sowing of wheat, (on account of the insect here mentioned,) and substitute rye in its place. This course would seem to be a very judicious one, to be followed at least as long as danger is to be apprehended from the insect.

SHEEP RACKS.—The following is from a letter of Mr. HENRY WESTON, Jasper Co., Indiana:—"If the subject has not been brought to your notice, I would recommend a very cheap and convenient sheep rack, which is made by placing at an angle of 30 or 40 degrees from the perpendicular of a rail fence, two flat stakes or pieces of boards for each panel, and bracing them with short sticks, then laying on edge, one upon another, three or four boards, according to width, so that the lowermost shall slide close against the bottom rail. The sheep, being on the opposite side of the fence, feed between the rails. The hay thrown between the boards and the fence, will of course slide down as consumed below. The spaces between the rails must not be so wide as to waste too much, nor so narrow as to prevent feeding."

HISTORY OF THE BULLOCK STOCK.

There is a description of cattle well known in this part of the country as the "BULLOCK STOCK," the history of which, we have taken some pains to learn, and for this purpose, we paid a visit, a few days since, in company with a gentleman well skilled in *cattle genealogy*, to the farm of the late MATTHEW BULLOCK, Esq., (about ten miles from this city,) the gentleman from whom the stock alluded to, took its name.

We find that sometime previous to the year 1820, Mr. Bullock purchased of Mr. Cox, of Rensselaer county, a bull and two heifers of a family of Short Horns, which the latter gentleman imported from England. The particulars of this importation, we have not been able to procure, but shall make further endeavors to obtain them. These heifers and their produce, were afterwards bred to two Short Horn bulls imported from England by Messrs. Bullock and Wayne in 1821. One of these bulls was called *Nelson*, and the other *Comet*—the former was principally *red*, and the latter nearly *white*. The stock from both these bulls proved good—that from *Comet* particularly, was very well shaped, and thrifty, and the progeny of both were good for the dairy. Mr. Bullock first took *Nelson*, Mr. Wayne retaining *Comet*; and after three or four years, they exchanged, Mr. Bullock taking *Comet*, on whose hands he died. For several succeeding years, Mr. Bullock bred from bulls raised by himself and from bulls owned by the Patroon. In the year 1832, Mr. Geo. W. Smith imported the Short Horn bull *Copson*, and the cow *Susan*. Mr. Bullock bought *Copson*, and bred from him till 1837, when he was purchased by G. V. Sackett, Esq. of Seneca Falls. The stock from *Copson* proved superior for dairy purposes to any Mr. Bullock had before bred—though his cattle had all along been good in this respect; and it seems to be a general impression that the stock from this bull were superior as milkers, to any which had then been known here.

A primary object with Mr. Bullock, in the outset, was the establishment of a dairy. His cattle were of course chosen with a view to this object, to which they proved well adapted; and after the use of the bulls *Comet* and *Copson*, they united, also, very good fattening qualities, and were, besides, good for labor. They were in some instances sold as high as \$225 per yoke, simply as *working* cattle, and some of them which were fattened, were quite extraordinary. A pair of six years old white oxen, (got by *Comet*,) were sold to a butcher of New-York, one of which weighed alive, upwards of *twenty-nine hundred* pounds. They had been worked on the farm for two or three seasons, and the season they were turned off to fatten, performed a heavy spring's work at plowing. They were fattened about eighteen months. One of them had 325 lbs. of rough tallow—the other, 296 lbs. Mr. Bullock sold them for \$600.

Mr. Bullock carried on dairying on a considerable scale—milking some seasons from thirty-five to forty cows, and making as many as eight tons of cheese in a season; the quality of which was so superior, that the whole of it commanded a price as high as *eighteen cents* per pound.

It is evident that it was Mr. Bullock's object to make his stock *intrinsically* valuable. He did not rely on sales at high prices, but endeavored to keep that which gave most profit *on the farm*, and in this respect he was abundantly satisfied.

None of the stock we have mentioned, were *Herd-Book* animals—in fact, all of them, with the exception of *Copson*, were imported before any *Herd Book* was published—the first volume of that work having appeared in 1822. Of *Nelson* and *Comet* no particular history has been preserved. The pedigree of *Copson* was as follows:

Copson, roan, imported in 1832, by G. W. Smith, Esq. bred at *Copson-Lodge*, England. *Copson* was got by Dutchman, dam, Cardinal; g. dam, *Nelson*; g. g. dam, *Marske*; g. g. g. dam, sire of *Danby*; g. g. g. g. dam, *Danby*.

Dutchman, by Mynheer—dam, Pretender, &c. &c.

So well was the value of Mr. Bullock's stock finally established, that at a sale which took place in 1837, and at

some private sales which took place both before and afterwards, several of the cows brought \$200 to \$275 each.

Since the death of Mr. Bullock, which occurred a little more than a year since, the farm has been divided between two of his sons, Messrs. Andrew and Thomas Bullock. From these gentlemen, and from Mr. C. N. Bement, (who was well acquainted with Mr. Matthew Bullock, and all the circumstances attending the importation and purchase of his stock,) we have derived the principal points in the above history.

WORKING QUALITIES OF THE SHORT-HORNS.—An idea prevails among farmers, that our common stock is better for work than the improved breeds, or at least, better than the Short-Horns. We are satisfied that this opinion is in many cases founded in gross prejudice—we do not believe that any fair experiments support the idea in the least. We saw on the farm of Mr. Thomas Bullock, a pair of working oxen, entirely of the variety we have been speaking of above, one of which was five, and the other six years old. They were heavy—would "girt" (as the Yankees say,) considerably over seven feet, and were well proportioned. They were harrowing some tough inverted sward, near the middle of one our warmest days. One of them, (a son of *Copson*,) was as cool and quiet as if he had been lying in the pasture; the other had not been so much accustomed to labor, and did not perform his work quite so easily, but was in good condition in every respect. Their gait was spirited and lively—more so than that of common cattle. Mr. Bullock assured us that they had worked very steadily without extra keeping. On the farm of Mr. Andrew Bullock we were shown a pair of large red oxen of the common breed. We asked Mr. B. if he preferred these cattle to such as his brother's; he replied "no, they are neither so handy or so quick as his, and will not stand work so well." Both the Messrs. Bullock told us that their father worked many of the oxen of his breed, and that he always preferred them to the best of the common country oxen. They were more tractable, were stronger, and were kept easier. Mr. Thomas Bullock very candidly remarked, that upon very light soils, where less strength of team is required, lighter and more active cattle might be preferred, but that on their strong soil, a strong team was necessary, and these heavy cattle were therefore found most profitable.

CLOVER AS A FERTILIZER.—We noticed that the Messrs. Bullock pay very particular attention to stocking all their lands that are suitable, heavily with clover. Their pastures were so thickly set with it, that in spite of all the stock could eat, it covered the ground like a mat. When this ground is broken up, it is full of clover-roots, which render it mellow and friable like a carrot bed, almost ensuring the growth of a heavy crop of wheat or other grain.

The Messrs. Bullock's buildings are well arranged, and generally in good order. Considerable attention is paid to saving and making manure, and the yards are pretty well arranged for this purpose. Their general management is evidently good, and in this respect presents a wide contrast with that of some farms we passed on our way out, where the miserable fences, slovenly door-yards, the dying fruit-trees covered with old caterpillar's nests, old rickety buildings, &c. &c., showed that the occupants were strangers to the comforts which neat and good management always brings.

MIXING SOILS.—A correspondent of the Springfield (Mass.) Republican, states that Mr. John Moore of West Springfield, has made a successful experiment in the application of clay upon grass land of a dark, heavy soil. Last fall he carted on clay to the amount of forty loads to the acre—left it in heaps exposed to the frost till spring—when, being dry and partially pulverized, it was spread. The expense of digging, carting and spreading, was ten dollars to the acre. The grass before the experiment, was nearly all sedge. It is now changed (no seed being put on) to red and white clover, mixed with herds grass, worth double the former crop in quality, and increased in quantity thirty per cent. A similar experiment was made in the same lot upon a light, dry, gravelly soil, which produced no effect whatever.

ENTOMOLOGY.

THE DRAGON FLY.—In a late report of the doings of the New-York Farmer's Club, it is mentioned that some grubs were presented, having a "singular growth, apparently like the root of some vegetable, proceeding from the neck," &c. A distinguished member of the Club gave it as his opinion that the grubs were the larvæ of the Dragon fly—*libellula*.

That vegetable excrescences sometimes proceed from the bodies of insects, is a fact, not perhaps generally known; and though these productions have been found on several kinds of insects, yet we should hardly suppose they could exist in the larvæ of the *Dragon fly*; and from the economy of that insect, we cannot but view the idea that they have thus been found, as erroneous. The *Dragon fly*, in the first stages of its existence, lives wholly in the water, and it is hardly reasonable to suppose that while in that element, this vegetable excrescence would be produced. We have had some opportunities for learning the habits of this insect, and have often seen it in all its stages, from the first appearance of the larvæ in the water, to the perfect fly. The eggs are protruded from the parent fly immediately into the water, where they soon hatch. When the larvæ is full grown, it emerges from the water, and fastens itself to some object near at hand. In a short time the shell is burst asunder, and the beautiful fly comes forth. In a few hours, the wings become extended and dried, and the insect commences its flight. We have sometimes taken these grubs just as they were coming out of the water, placed them in a warm airy situation, and in less than twenty-four hours have seen the fly come from them. Thus in the space of a single day, an aquatic animal, disgusting and revolting in its appearance, is transformed into one of the most beautiful inhabitants of the air!

It is supposed that the insect lives at the bottom of the water for a year or more. "Its mode of locomotion while in this element," (says the *Natural History of Insects*, pages 214, 215,) "is curious; for though it can move in any direction, it is not by means of feet or any direct apparatus that it moves, but by a curious mechanism, which has been well illustrated by Reaumur and Cuvier. If one of these nymphs be narrowly observed in water, little pieces of wood and other floating matters will be seen to be drawn towards the posterior extremity of the insect and then repelled; at the same time that portion of its body will be observed alternately to open and shut. If one of them be placed in water which has been rendered turbid by milk, or colored with indigo, and then suddenly removed into a more limpid fluid, a jet of the colored water will be seen to issue from the anal extremity of the *libellula*, to the extent sometimes of several inches; at the same time the force with which the column is ejected, propels the insect in the opposite direction, by virtue of the resistance with which it meets. Hence it appears that it is by means of its respiratory system that the creature walks—a strange and anomalous combination of functions in one organ.

"If the insect be taken out of the water, held with its head downwards, and a few drops of that fluid poured on its tail, that which was a mere point will immediately open and display a cavity: at the same time the body of the insect, which was before flat, will be observed to be enlarged and inflated, and if held up to the light, semi-transparent: moreover, something solid will appear to be displaced by the water, and driven towards the head. This solid mass will shortly descend, obscure the transparency of the lower portion of the body of the insect, lessen its diameter, and, when it does so, a jet of water will issue from the vent. It is clear, then, that the abdomen of the *libellula* is a syringe, the piston of which being drawn up, of course the pressure of the fluid fills up the vacuum, and, when pushed down, expels the water. To ascertain the fact, Reaumur held the insect in his hand, and when he saw its body inflated, cut it immediately with a pair of scissors, and found it unoccupied with solids. He watched when the jet of water was expelled in another, and as soon as the body was darkened and lessened in diameter, he clipped it, and found the cut portion occupied by solids. There is no doubt, then, that

the abdomen contains a moveable piston, and this piston is composed of the air tubes."

During its existence in the water, the *Dragon fly* lives on the larvæ of the gnat, and other aquatic insects. After its metamorphosis, it feeds on gnats, musketoës, flies, &c., of which immense numbers are devoured. A large one has been seen to spread consternation among a swarm of common house flies. Entering a room and pursuing its prey with a ferocity equal to that of the hawk or eagle, numbers of the fly are soon caught, and the rest taking ready warning by the fate of their comrades, escape from the fangs of their terrible enemy, by the nearest door or window.

THE MAY-BUG AND HORN-BUG.—But let us recur again to the vegetable excrescences on insects spoken of above. In some sections of the country, the belief is quite common that a kind of worm produces blackberry bushes. The insects which are thus strangely supposed to be the origin of such a production, are the larvæ of either the *horn-bug*, (*Lucanus capreolus*), or the *May-bug*, (*Melolontha vulgaris*), both being generally confounded under the name "white grub." The erroneous idea to which we allude, probably originated in the circumstance of a kind of fungus having been found proceeding from the larvæ of one of these insects. We have more than once chanced to find the larvæ of the *horn-bug* thus affected. This insect is found in the decaying stumps of trees, particularly the oak and apple-tree, and also in door-yards where the chips and rubbish from hard wood have been suffered to accumulate and rot. Blackberry bushes are very likely to start up in fields around old stumps, and these stumps being the natural haunts of the *horn-bug* and its larvæ, it is natural to suppose that in eradicating the bushes, worms might be found having the excrescence mentioned, and with the little knowledge of such subjects which too often prevails, and without any examination, the strange theory alluded to was adopted.

This fungus is said to have been sometimes found on the larvæ of the *May-bug*, (*Melolontha*)—it should be remarked, however, that though the larvæ of the *horn-bug* is considerably larger than that of the *May-bug*, yet their appearance is so similar, that without particular observation, the one might be mistaken for the other. It should also be borne in mind that the places where these vegetating insects are mostly found, are the natural haunts of the *horn-bug*, but not of the *May-bug*—the larvæ of the latter, instead of subsisting, like that of the *horn-bug*, on decaying wood, feeding on the roots of grass and other living plants. From all these circumstances, we are inclined to believe that the larvæ of the *horn-bug*, (*Lucanus*), has sometimes been mistaken for that of the *May-bug*, (*Melolontha*).

In all the instances we have known, the worms on which these excrescences have been seen, were not only dead but in a state of decay; yet we are aware the belief is by some entertained, that they are found in the living insect, whose death it is supposed, is ultimately produced in consequence; though we do not recollect any well authenticated instance of the kind. It is admitted however, that in living insects of other kinds, productions of a similar nature have been found.

A word in regard to the habits of these insects. The *horn-bug*, in all its stages, is to the farmer a harmless insect—subsisting, as we have before said, on decaying wood. Very different is the character of the *melolontha*, or *May-bug*. A more formidable enemy to field crops is scarcely to be found among the insect tribes. The parent bug or beetle, deposits eggs to the number, it is said, of nearly one hundred, in the ground, usually in the month of June, in this latitude. It remains in the ground, according to Kollar, five, or in some instances, six years, living on the roots of whatever cultivated plants or grasses it may come in contact with. It lies dormant like the ant, in winter, but revives and resumes its ravages with the warmth of spring. It is sometimes very destructive on grass grounds. Some twelve or fifteen years ago, it prevailed in some sections of this country to an alarming extent. The roots of grass were in some places so completely eaten off, an inch or two from the surface of the ground, that the turf, for rods together, could be rolled up like a carpet. We recollect seeing a piece of ground of

about two acres plowed for rye, and the grubs were so numerous that it was thought advisable to pick them up. Two large buckets full were soon gathered by following the plow. They sometimes attack Indian corn, and lay the foundation for much damage before they are discovered. They begin by gnawing off the roots at a considerable distance from the centre-stalk, by which the supply of nourishment is cut off; the plant looks sickly, but retains some degree of life. In this condition, the first wind that blows throws it flat to the earth; or if it chance to survive, it makes but a feeble stalk, and perhaps no grain.

In regard to the transformation of the may-bug, Kollar says—"When the grub has attained its full size, it buries itself in the ground, five or six feet deep, at the beginning of the fourth year, prepares itself a dwelling similar to the one it occupied when changing its skin, previously discharges its excrement, and quietly awaits its last metamorphosis. It now soon begins to swell out, becomes shorter and thicker, the skin bursts behind the head, the slit gradually becomes wider on both sides, and the skin by some vermicular movement is disengaged from the pupa, which now appears of a pure white, and as the first representation of the beetle, in all its parts being now recognizable. As it advances towards maturity, the pure white color changes to a dirty orange yellow, which gradually grows darker. In January, or at the latest, February of the fifth year, the cockchafer assumes its mature form. It leaves the pupa case a soft and white beetle at first, but in the course of ten or twelve days all the parts of its body become hard and of their proper color. The insect now remains three or four months in the earth, approaching however, gradually nearer to the surface; till May, or in the middle of April, if the weather should be fine, when it exchanges its abode in the earth for one in the air. The complete transformation of a May-bug, therefore, occupies a space of five years, or even in case the beetle be retarded in its transformation by its food and the weather, sometimes six years."

No easy remedy against the ravages of these insects, has yet been discovered. Skunks (pole-cats,) destroy great numbers of them, both in the larvæ and beetle state. They may be often seen in moon-light nights, or at twilight, searching diligently through the meadows and pastures for their favorite food. Toads destroy many of the beetles. Crows and other birds seek and eat many of the worms. They are also eaten by domestic fowls and by hogs—the latter often root up the sward of whole fields, in searching for them.

Kollar describes the may-bug as being destructive to vegetation both in the larvæ and beetle state. Our own observation does not agree with this, having never seen the bug eat any thing. We have made frequent inquiries of farmers and gardeners, but have found no one who has known vegetation to be injured by this insect in the beetle state. Hence we are induced to believe that some mistake has occurred. Perhaps the insect described by Kollar belongs to another species.

The may-bug lives but a few days after it comes from the earth. Like many other insects, it seems to have fulfilled the designs of nature when it has propagated its species, and soon after this, it dies.

LETTER FROM MISSISSIPPI.

We would call the attention of manufacturers of agricultural implements, to the following letter from THOMAS AFFLECK, Esq. of Washington, Mississippi. The opportunity furnished by the conductors of the agricultural societies, of which Mr. A. speaks, for the trial of plows, &c., we should think would be gladly improved by those interested in the sale of such articles. An opening may hence be made for a very extensive sale of implements.

We received the samples of Bermuda grass alluded to. It is very heavy, and judging from the solidity and sweetness of its stems, we should suppose it was exceedingly nutritious. In appearance, it closely resembles some of our annual wild grasses, particularly a kind sometimes called "crab grass," but which we do not find registered

in any botanical work at hand. It is very troublesome in gardens of a sandy soil. The stems or branches lay close to the earth, and have the habit of striking root from each joint. In these respects, and in the character of the head, it seems precisely like the Bermuda grass. If we understand Mr. Affleck, however, the Bermuda grass is perennial, whereas the other is strictly annual, and is totally killed by the first freezing of the ground. They are probably of different species, closely allied. We shall preserve the specimens, and endeavor to ascertain the correct name of the grass.

EDITORS OF THE CULTIVATOR—You will observe by the report I forward to you, of our spring agricultural show, that arrangements will be made for a trial of implements at our fall meeting, (last Saturday of October.) The subject now excites much interest among planters here, and all are anxious to see a full assortment of implements, and particularly of plows, from every quarter of the Union at the approaching trial. It is to be hoped that makers of implements will see how much it would be to their interest to have their machines exhibited to their customers at such a time. Articles can be shipped at a trifling expense from New-York to New Orleans, and thence to Natchez. They should be consigned to Wm. J. Minor, Esq. the president of our society—may be sent to any commission house in New Orleans. I will name Messrs. Ferriday, Ringgold & Co., who will forward them. The society expects, of course, that manufacturers will deliver their implements at Natchez free of expense, or at all events that they will authorize the society to sell the implements, and remit the balance after deducting the freight and charge. The house of Holmes & Co. of Natchez liberally offered to the society, to carry any implements, intended for exhibition and trial at its meetings, from Boston to Natchez, in their regular packet ships, free of charge. Their agents in Boston are Henry Lincoln & Co., India street. You will materially aid the cause you advocate, by laying this subject before your manufacturers, and pressing it upon their notice. An extensive market can here be opened for implements and machines, such as the following—provided planters have an opportunity to see and test—Prouty & Mear's Centre Draught, Ruggles, Nourse & Mason's, Bergen's, Burrall's, McMillen's, Sinclair & Co.'s Self Sharpening, the Dolphin, Side-hill, and many other excellent plows—including many of western make, such as Sloop's, Garret & Co.'s, Peacock's, and others in Cincinnati; Dudley's, Wood's and others in Maysville; Hall's in Pittsburgh; many excellent plows made by Hays & Co. Louisville—and in fact all good plows whose makers may have a desire to extend their market. There are Langdon's Horse Hoe; Corn Planters, especially Bachelidor's; small Threshing Machines, horse power; Corn Crushers; Fanning Mills; Straw Cutters; Revolving Hay Rakes; Cultivators; Harrows, &c. &c. In fact almost any of your labor saving implements would attract much attention, and if on trial they gave satisfaction, would readily sell on the ground. If manufacturers will forward to me, through Messrs. Lincoln & Co. of Boston, or Messrs. Samuel Wiswall & Co., 139 Maiden Lane, New-York, good casts or wood cuts of their implements, &c., of a size not too large for the Cultivator, I will make such use of them as will be of great advantage to them, and that without charge. My object is to illustrate the report of the exhibition and trial this fall. Please to aid me in procuring as many of these as possible, and especially of plows. I may add, as a farther inducement to manufacturers, that there are at least two annual shows held by county societies, immediately adjoining, at which implements sent here can be exhibited, as they occur after ours. Even if the implements are sold here, a reservation can be made to that effect.

BERMUDA GRASS—And now I will answer your inquiries with reference to Bermuda (or Doub, not Dou!,) grass. It would not, in my opinion, bear the cold of your winters—the first frost kills it to the ground. The Muskete, or as Kendall calls it, *Mesquit* grass, I presume would suit your climate better. It is yet a mooted question whether the Bermuda ripens its seed in this latitude. I will examine it carefully this season, and if I find matured seed, will send you some. I know not where

Mesquit grass seed can be obtained. I send you three samples of Bermuda—one of long grass, of upright growth from the meadow, just coming in blossom—the other from an upland pasture—and the third, a stalk that I pulled off the surface of the ground, to show you how it spread, and how admirably it is adapted for embankments. On a piece of good meadow land, this grass stands in a solid mat—so close are the stalks, and so thickly interwoven are the leaves, that when cut with the scythe it very frequently stands erect. I feel very confident that it is the most highly nutritious grass known to us. From the specimens I send you, you will readily understand how such enormous crops of hay are cut from meadows of this grass—observe the great solidity and weight of the stem. In curing, it loses less weight than any grass I ever saw—and affords three cuttings, yielding an aggregate of from five to eight tons of hay, from a moderately good meadow.

I have said enough, however, to convince any planter who wishes to form pastures for his almost starved stock, or to do away with the necessity of pulling fodder, work so destructive to the health of his negroes, that he ought at least to make the experiment. And as a proof that I am willing to aid in spreading this treasure over the naked hills of the south, I will willingly forward to any planter, who is a subscriber to two agricultural journals, one of which is published in the state in which he resides, on his applying to me *post paid*, a barrel of roots of this grass, which would, in one season, cover a large extent of ground. To the river planter it is absolutely invaluable—there is not a levee on the banks of the Mississippi could resist, for one hour, the pressure and attrition of the fearful flood now rolling along, but for their being bound together by this grass.

That flood, by the way, has done, and is still doing immense damage. (I now write on 26th July.) It is, by a number of inches, the highest on record. The fall is even yet so trifling, that it is disputed. The levees have broken in many places, and in others are completely overflowed. The back country is one sheet of water, in most places; and in almost all, the crops are gone, both cotton and corn. This, coupled with the tremendous destruction to the corn crops of Missouri, Illinois, Kentucky, Arkansas, &c. must, we fear, make corn very high. The loss of cotton is generally averaged at 300,000 bales—or about one-sixth of the past year's crop.

Our summer or first show came off on the 13th inst.—and a splendid, and a well attended show we had. I have not room for particulars. THOMAS AFFLECK.

Washington, Miss. July, 1844.

TO PREVENT HORSES JUMPING FENCES.

Some years ago, I bought a good horse, which among other fine qualities was recommended as a great jumper, vaulting with ease "over a fence six feet high." I intended to take care of that part of the business myself, but for a time I found I was overmatched. I tied his head to his fore-foot, but that made no difference—over he went. I put a wooden clog on his fore-foot as large as a man's leg, but he carried that over the high fence with him. I "hopped" him, fastening his fore and hind foot within two feet of each other; but was very much surprised to find him, all chained as before, on the other side of the fence; and it was not till several repetitions of the experiment, that I saw how he did it—which was by drawing his two chained feet closely to his body, and throwing himself over with the other two. And when he chanced to be free from all restraint, it was very often hard to tell where he might be found, as he would soon pass half a dozen high fences to reach some favorite field. To try to catch him, was very much like the boy's trying to catch the hawk—he said he "did not expect to get him, but thought he might at least worry him."

But I have found a simple and efficient remedy. Pass a small and strong cord round his body just behind the shoulders, and tie the halter to this cord between the fore-legs, so as to leave a distance of about two feet from the cord to his head. If then he undertakes to jump, he is compelled to throw his head forward, which draws

and he instantly desists. The cord should not be more than a quarter of an inch in diameter. A FARMER.

SOUR SOILS.

I wish to avoid controversy, but it is perhaps justice to myself and respect due A. J. P. to answer some of his inquiries, especially as he appears to have quite misunderstood my object. If he will read the remarks I made, through, he will find I do not hold "old notions," and that the facts I stated were for the purpose of keeping "the question in a state of suspense," without taking ground on either side. Hasty decision has led to a great deal of dispute among physiologists and chemists.

A. J. P. will observe that I did not say that *oxalic acid* existed in soil, neither is the proof perfectly clear that it does not, for analysis is too imperfect an operation for any one to decide positively on the subject. He is perhaps aware that Dr. Dana, generally regarded as a "scientific" man, holds to the "old notion" of sour soils, and their neutralization by lime; and I would request leave to refer to a paper of his in vol. 10, page 123 of the Cultivator, not agreeing however with him in all his opinions.

I am asked the meaning of the term *sour soil*. Perhaps I can best answer the question by referring to the 7th chapter of Ruffin's Essay on Calcareous Manures, without occupying any more space here than just to say that he gives repeated instances where the application of carbonate of lime completely prevented the growth of sorrel; and also very striking and decided instances where burying in the soil leaves of pine which had a strong acid taste, produced a marked and abundant growth of sorrel. That lime does not always destroy sorrel cannot be denied; but the reason of the difference in its effects, appears yet unknown. The term *sour* in England, appears to have long been applied to soils, in common language, very much as *sour face* is to a man, indicating an unfriendly quality.

I was somewhat surprised to observe that A. J. P. denied the existence of any free acid in soils. Berzelius, Johnston, Dana, and others assert it. "Who shall decide when Doctors disagree?"

He admits the difficulty of determining the constituents of the soil where they are in minute quantity. Now I have seen manures applied at the rate of one bushel per acre, produce very extraordinary results, nearly doubling the crop—and one tenth of a bushel would probably have made a very sensible increase. But one tenth of a bushel, diffused through an acre of soil eight inches deep, would constitute less than a hundred thousandth part of the whole, which would require a very skilful analyst to examine. Hence we may infer that substances existing in the soil in such small quantities that chemists cannot detect them, may yet yield important results in the growth of plants; and the latter may give decisive indications of the character of soils when analysis fails.

I am sorry I cannot furnish a specimen of the soil spoken of, for examination, as those particular portions in contact with the corroded pipe could not now with certainty be found.

It may be objected that I arrive at no conclusion, and leave all in doubt. This is what I wish to do. Nothing should indeed be beyond our inquiry; but in such a mysterious process as the growth of plants, where light and air, dew and rain, heat and electricity, and many constituents in the soil, are operating on them and on various parts of them at once, and new chemical affinities constantly taking place, and all at the same time imperceptibly slow, and by vessels and machinery so minute as to be in a great measure beyond the most powerful microscope,—it is not strange that many things remain undiscovered, and great caution should be used in laying down principles. If Newton, after a long life of deep research with mathematical demonstration, should compare himself to a boy playing with pebbles on the seashore, while the great ocean of truth lay all undiscovered before him, how much more should we hesitate in boasting our achievements in a science so much less capable of precision and certainty, as that which examines the ever-varying influences and results of vegetable growth.

J. J. THOMAS.



FULL BLOOD MERINO BUCK, CONSUL—(Fig. 86.)

Owned by W. R. SANFORD, Esq., Orwell, Vermont.

In reference to the portrait above given, Mr. Sanford says, "it represents a buck which I own, nine years old, bought when a lamb, of Hon. Wm. Jarvis of Weathersfield, Vermont, by a distinguished wool grower in this vicinity. His average annual weight of fleece is ten pounds. The weight of his body three years ago, was 164 lbs. I weighed him again about the middle of last April, and his weight was 156 pounds. His stock proves very superior, possessing all those qualities that I presume every wool grower is aiming at, viz. good thickness of fleece, very fine and soft. In 1829 I purchased of Messrs. Grant and Jennison of Walpole, N. H., twenty old full blood merino ewes, which were purchased by them when lambs, of Hon. Mr. Jarvis, and warranted full blood. These I have kept distinct and pure, and from

them have reared a flock that the ewes yield an average of four pounds and over to the fleece, of clean handsome wool. Messrs. Grant and Jennison bought these sheep of Mr. Jarvis, before the Saxony sheep were introduced into the country—they were of course pure, and since I have had them, I have taken a good deal of pains and trouble to keep them so. I have purchased three superior bucks from Mr. Jarvis's flock, and by using them and those of my own rearing, have kept them pure."

Accompanying the drawing, we received from Mr. Sanford some thirty samples of wool from his flock. They are of long staple, soft, and free from gum, and of good quality. We should be pleased to show the samples to those who wish to look at them.

MR. AVERY'S SHEEP.

MESSRS. EDITORS—Agreeably to promise, I send you a drawing* of one of my improved Paular Merino ewes. She was well washed and sheared on the 25th day of June, when her fleece was just one year and two days growth, in the presence of several gentlemen, among whom were Hon. Lewis Stone, Jesse H. Mead and Wm. B. Knox, Esqs. Her fleece was weighed by one of the above named gentlemen, and weighed 7 lbs. 3 ounces. Her live weight is about 120 lbs., having a lamb by her side, about 5 weeks old, at the time she was weighed and shorn.

In the Sept. number of the Cultivator, 1843, I gave the results of an experiment made with my flock, to ascertain the best feed to produce wool. An extract from that communication, appeared also on the 17th page of the Cultivator Almanac for 1844. At its close, I expressed my intention to renew my experiments another year. I have done so; dividing my flock into lots of as nearly equal goodness as possible. The kinds of feed are, as the year before, viz:

- | | |
|-----------------------------|-----------------------|
| Lot 1. Corn,..... | 2 quarts to 32 sheep. |
| " 2. Corn and oats,..... | 3 " " |
| " 3. Oats, | 4 " " |
| " 4. Cracked corn in cob, 4 | " " |

The result is, that those fed on cracked corn, have given 1½ ounces more wool per head, than either other lot. Those fed on corn and oats, about 1 ounce more than those fed on oats alone. Lots No. 1 and 3 gave about equal quantities.

The whole flock, consisting of 98 ewes, (35 of which are yearlings,) and 6 young bucks, gave an average of a fraction over 5½ lbs.; which, at 45 cents, the price obtained for it this year, is, as you will perceive, \$2.36 per fleece. In addition to this, I have from my 63 ewes,

which are over one year old last spring, 63 fine lambs, nearly 40 of which are bucks.

It would be folly to say that my sheep are not well taken care of; but I certainly do not think them extravagantly fed.

I have been particular in laying these experiments and their results, before the public, to show how they have been fed, and what kind of food has succeeded best; that wool-growers, and especially those who are just commencing, may see the advantage of proper care, with the right kind of sheep.

In reference to the wool from my Paular flock, the statements given below from the two gentlemen who have manufactured, either the whole clip, or a part of it, for three successive years, will speak for itself.

"I manufactured the wool taken from the flock of Paular Merino sheep, owned by Mr. Avery of Galway, Saratoga County, in the years 1841 and 1842. I found the average weight of fleece, in those years, to be about 5½ lbs., well washed, and free from tags. The heaviest fleece was about 12¾ lbs. This wool is free from jar, (hair,) a beautiful soft staple of great length; becomes the purest white when scoured, retaining its mellow, oily touch, and its felting properties are excellent.

July 29, 1844.

HENRY PAULING."

"I hereby certify that I manufactured for Mr. Avery of Galway, Saratoga County, N. Y., a part of the wool taken from his flock of Paular Merino sheep, in 1843. He brought me 20 fleeces, well washed, free from filth and tags, which weighed 111 lbs. I find this wool free from jar, a fine soft staple, of extraordinary length; and its felting properties are of the first order.

Milton, July 16, 1844.

Jos. RIGGS."

I will only say further, that the 20 fleeces taken to Mr. Riggs, were a trifle heavier than the flock would average, which was 5 lbs. 5 ounces per fleece.

Respectfully yours,

R. A. AVERY.

Galway, Saratoga Co., N. Y., July 29, 1844.

* We are under the necessity of omitting the drawing.—Eds.

NEW SYSTEM OF MANURING.

A singular idea has just been suggested in Scotland, in relation to the nutrition of plants. It may be summed up in a few words, thus—that a sufficient quantity of the elements of nutrition may be absorbed into the seed of wheat, oats, barley, &c. to ensure a very large produce at harvest, without any other manure. The gentleman that suggested the idea made experiments at two successive seasons, (in 1842 and 1843,) with complete success, and the Highland Agricultural Society of Scotland, have published in their Transactions, a detailed account of the whole affair. The experiments were tried on oats and barley, and the produce, especially the oats, were exhibited at the Society's exhibition last fall, and were of remarkable quality. In their Transactions, the Society speak of them in these words:—"There was perhaps no object in the exhibition of plants in the Society's Show at Dundee, in August 1843, which attracted such general attention as the remarkably strong and vigorous oats, growing in soil, exhibited by Mr. James Campbell of the Educational Seminaries of that town. The soil in which they grew, possessed no peculiar property, except that it had not been manured for eleven years. The vigor of the plants, according to Mr. Campbell, was entirely to be ascribed to their seed having been subjected to the process of soaking in certain chemical solutions." Mr. Campbell, himself, describes the result of the experiment thus:—"The greater number of the stems of the oats are as thick as small canes, and the leaves from one inch to one inch and one-seventh in breadth, of a vigorous dark green color. The seed was very light, not exceeding 37 lbs. per bushel, and consisted of grains set aside for feeding poultry. The average number of stems from thirty-three seeds, is eleven or twelve to each seed sown, and the gross apparent produce between five and six hundred fold." The solution in which these oats were soaked, was that of sulphate of ammonia. He prepared it from the carbonate of ammonia himself. He also used solutions of nitrate and muriate of ammonia, and nitrate of soda and potash, and all these in combination; but he seems to think the sulphate the best, though all the others produced favorable results. As these experiments cost but little, and can very easily be tried, I would recommend all farmers to make them with at least one acre. The simplest method is to take one pound of carbonate of ammonia and dissolve it in five pints of pure rain or river water. Then take one pound of finely ground gypsum (or plaster of Paris,) and stir it into the solution of ammonia, and let it stand twenty-four hours, stirring it occasionally. When the lime of the plaster of Paris has completely settled at the bottom of the vessel, pour off the clear liquor into another vessel, and add four pints of water to the lime, stir it well, let it settle, and then pour off the clear liquor into the other vessel as before; then put three pints more of water to the lime and stir it well again; let it settle and pour off as before into the other vessel. The object of these successive washings is to secure all the sulphate of ammonia that may be in the lime. The result will be, that there will be in the twelve pints of solution just one pound of sulphate of ammonia, which is the strength of the solution directed by Mr. Campbell. And these twelve pints, or one gallon and a half is the quantity required for one bushel of seed. The cost of the carbonate of ammonia is about 30 cents a pound at retail; the plaster costs comparatively nothing; therefore, if Mr. Campbell's theory be correct, it will cost but 30 to 60 cents to manure an acre of ground for a very large yield of wheat, oats, &c. The length of time Mr. Campbell left the oats, barley, &c. in soak, varied from fifty to ninety-four hours, at a temperature of 60 deg. Fahrenheit. Barley did best when steeped 60 hours. Rye grass, and other graminous seeds, do with soaking fifteen to twenty hours, and clover from eight to ten hours. He does not mention the time required for the steeping of wheat. Of course a much shorter time will be required than that for barley or oats; probably ten to fifteen hours would be sufficient.

Having stated Mr. Campbell's theory and given his practice with the results, I must be permitted a little criticism. It appears to me that the theory itself is a kind

of condensation of the old and very deservedly exploded practice of manuring in the hill, without some of its most important advantages. Suppose a small quantity of this same sulphate of ammonia were placed in the hill with the seed, the moisture of the earth and the rain would gradually dissolve it, and the seeds would readily absorb it to the full extent of their capacity, and the growing plant would take up as much of what was not absorbed by the seed, as its future growth required. But it is obvious that this would only be of much advantage during the very young state of the plant. Its roots extend every way, far beyond the small place where the salts are: What for? Are we to be informed that the roots are thus sent out in search of inorganic matter, air and water only? Again, does sulphate of ammonia comprise all the elements of nutrition that compose the food of wheat, barley, oats, &c.? Let us see. Straw contains 38 per cent of carbon; that is, one hundred pounds of straw contain 38 pounds of carbon; and one hundred pounds of wheat contain 43 pounds of carbon. Sulphate of ammonia can only furnish the necessary (but absolutely essential,) nitrogen, nothing more. If, therefore, as Mr. Campbell asserts, oats soaked in a solution of sulphate of ammonia, and planted in a tilly subsoil taken six feet from under the surface, and in which there is no humus or organic matter of any kind, produced from five to eight stems of prolific oats, then we must conclude that a sufficient quantity of carbon and organic matter to supply the plants with its other elements must have been supplied through the medium of rain water, atmospheric air, &c. It may be safely admitted that the plants do obtain from these sources, an abundant supply of carbon; but that they do not thence obtain their potash, phosphorus, magnesia, silica, &c. is well known. Again, supposing there is no magnesia in the soil, whence will the wheat plant obtain phosphate of magnesia, which is an essential portion of all the graminæ? Whence, also, will it obtain the silicate of potash, if there be neither potash nor silicic acid in the soil? Will sulphate of ammonia alone, in a soil taken six feet below the surface, and in which there is no humus or organic matter of any kind, furnish all these or any of these essential elements of vegetable organism? As hinted above, ammonia furnishes to plants nothing but nitrogen; nitrogen does not enter into the composition of any one of the above named elements. plants receive much, if not most of their carbon from the atmosphere; and why may they not also receive their nitrogen from the same source, as atmospheric air is composed of oxygen and nitrogen, the latter being four-fifths of its bulk. We all know that they do take carbon from the atmospheric air, throwing off the oxygen, and it is no more than reasonable to conclude that they appropriate the nitrogen to their own use.* If this hypothesis be admitted, the application of ammonia to soils is superfluous. But again, and I will have done with this criticism. Can it for one moment be supposed that a grain of wheat can take up by absorption, a sufficient quantity of ammonia to supply the whole plant, seeds and all, with all the nitrogen required for its perfection? It must be borne in mind, while considering this question, that twelve-thirteenths of the bulk of the solution absorbed by the grain, is simple water, and therefore that but one-thirteenth of the same bulk is sulphate of ammonia, that but one-third of this is ammonia, the other two-thirds being water and sulphuric acid, that about five-sixths of the weight of ammonia is nitrogen, the other sixth being hydrogen. Hence, wheat steeped as directed by Mr. Campbell, and absorbing the whole of the solution, will contain only one two-hundred-and-thirteenth of its own weight of nitrogen, a portion so inconceivably small, as to entitle the theory of Mr. Campbell to the appellation of the Homeopathic practice of agriculture. It is pretty well known to chemists, that grass, hay, &c. contain one per cent of nitrogen, that is, that one hundred pounds of hay contain one pound of nitrogen. I have not been able

* I am fully aware that chemists deny that plants derive any benefit from the nitrogen of the air, because, say they, "nitrogen cannot be made to enter into combination with any element except oxygen, even by the most powerful chemical means." Are there not many other combinations in the vegetable organism, that the same powerful means cannot produce, but that the chemical means of nature can and does continually?

to find any close analysis of wheat, but it must of necessity contain a much larger proportion of nitrogen than grass does, on account of its possessing a greater abundance of gluten, an essential element of which is nitrogen. Therefore the addition of half a pound of nitrogen, (which is the greatest quantity Mr. Campbell's theory requires,) to an acre of wheat, could only result in adding fifty pounds of wheat in the straw to the harvest that would have been yielded without it; that is, that this plan of manuring can only result in increasing the crop, straw and all, of an acre of ground, fifty pounds. Still, as I stated before, it is worth trying, because the cost of the experiment is a mere trifle, and there may be things in agriculture as well as elsewhere, not dreamed of in our philosophy. In the chemical proportions above referred to, I have only attempted an approach to the various quantities, but I believe a sufficiently close approximation to exactness has been attained for all practical purposes, especially for that in view.

Baltimore, Aug. 1844.

GIDEON B. SMITH.

MERINO SHEEP—A CHALLENGE.

EDITORS OF THE CULTIVATOR—At your request, I forward you some samples of my merino wool.

As the best answer to the commendations of the merino sheep of Mr. D. C. Collins of Conn., and the attacks on those of other breeders, which have appeared in the American Agriculturist, I forward you a copy of the following offer forwarded by me this day to Mr. Collins, accompanied by the intimation that it would be published in the principal agricultural journals of this State.* This intimation was given to allow him to publish his answer accompanying the challenge, in the September number of those periodicals, should he see fit:

I will show a buck from the flock of Mr. S. W. Jewett, against Mr. Collins' 'Grandee,'* and as the properties of the individual do not always test the blood and properties as a stock getter of a male animal, I will show two bucks and two ewes not less than one year old, and also two buck and two ewe lambs, all got by the buck exhibited by me, against an equal number of bucks, ewes and lambs, the get of 'Grandee' from Mr. Collins' imported stock or their descendants—these also with the exception of the four lambs, to be not less than one year old. The descent of the other animals from the buck exhibited by me, and from 'Grandee,' to be properly attested. The exhibition to take place at Poughkeepsie at or near the show ground of the State Agricultural Society on the 17th day of Sept. next, at 2 o'clock, P. M. As the judges on sheep selected by the State Ag. Society will not probably be then in attendance, and as they might not choose to be called on to decide in a private contest of this kind, I will select one of the judges, Mr. Collins shall select one, and the two thus named shall have power to select a third. I have named no sum of money as a wager, for under provocation which I consider as most gross and wanton, I would avoid all appearance of retaliatory blustering. I am content to show the sheep, and let their comparative merits be decided by disinterested men; but if desired by Mr. Collins, a wager for any sum not exceeding \$200 on a side, will not be declined.

I will also show at the same time and place, samples of wool from five of my ewes, against samples from an equal number of Mr. Collins' Rambouillet ewes, the weight of the last fleece, from which each sample is to be taken, to be proved by the affidavit of some individual who witnessed the shearing, "doing up," and weighing of each of the fleeces without being absent during or between either of said processes. The entire credibility of the person making such affidavit to be certified by the first Judge of the County in which he resides. The weight and quality of the fleeces in connection with the ages of the sheep, to be taken into consideration by the

*I give it this unusual publicity, as these commendations of Mr. C.'s sheep, accompanied by a favorable notice of the attacks which have appeared in the Am. Agriculturist, on the sheep of other breeders, have been published in an Almanac, of which a large edition has been issued with the design of giving it as wide a circulation as practicable.

*Mr. Colling's best imported buck, of which a portrait has appeared in the American Agriculturist, American Agriculturist Almanac, Central N. Y. Farmer, &c.

judges in making their decision. Judges selected as above. Here too, no wager is offered, but if one is proffered by the opposite party, to an amount not exceeding say \$50, it will not be declined.

This challenge to remain open until the 5th day of Sept. next.

HENRY S. RANDALL

Cortland Village, Aug. 5, 1844.

BEST TIME FOR CUTTING WHEAT.

The following experiments, just performed by the writer, to determine the best time for cutting wheat, may possibly be interesting to some:

1844, 6 mo. 29.—A few heads of wheat were cut from the field, when perfectly green, the grains hardly having attained full size, and being "in milk" or quite liquid within. After drying several weeks, a hundred seeds were carefully weighed and found to weigh only twenty grains. They were almost shrunk to chaff.

7 mo. 4.—Other heads were cut in the same way—they had just begun to assume a perceptible shade of yellow. One hundred seeds weighed when well dried, 35 grains, or nearly double the first.

7 mo. 11.—Other heads were cut—they had changed about one-third in color—the grains in the dough state. One hundred seeds weighed 46 grains, and would be regarded as a fair specimen of ordinary wheat.

7 mo. 15.—Mostly become yellow—a few streaks of decided green near the tips of the chaff—heads quite erect. After cutting in this state, and drying some weeks, the seeds were very plump and fine looking, 100 weighing 55 grains.

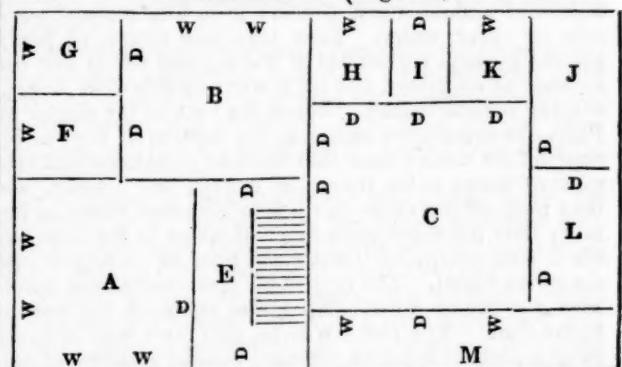
7 mo. 29.—Heads dead ripe and curved downwards. 100 seeds weighed 53 grains, being two grains lighter than the last, which would be a loss of about one bushel of wheat in every twenty-seven, by cutting it dead ripe, instead of two weeks earlier as in the above instance—besides the loss by shelling, and the inferiority of the straw.

J. J. THOMAS.

PLANS OF BUILDINGS.

MESSRS. EDITORS—Here is a plan of a farm house that I would like to see in the Cultivator; and also a plan of a cheap horse barn, asked for by one of your correspondents.

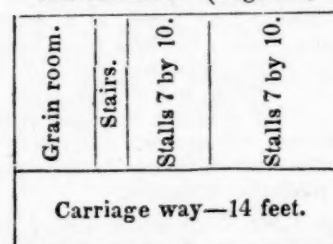
FARM HOUSE—(Fig. 87.)



Main building, 24 by 32 feet, two stories—back building, same size, story and a half high.

A. parlor, 16 by 16—B. dining-room, 16 by 16—C. kitchen, 18 by 18—E. hall, 8 by 16—F. bed-room, 8 by 8—G. bed-room, 8 by 8—H. bed-room, 7 by 8—I. hall, 4 by 8—J. wood-house, 12 by 16—K. pantry, 7 by 8—L. wash-house, 12 by 12—M. open stoop, 6 by 32.

HORSE BARN—(Fig. 88.)



Cost about \$150, 24 feet wide by 32 long. Posts 14 feet long.

CHARCOAL, ITS PROPERTIES AND ACTION.

MESSRS. EDITORS—Since the coming in of science to the aid of agriculture, there has seemed a wonderful disposition in the minds of some men to run quite mad on some particular theory or opinion. And this has shown itself in nothing more than in the desire to make some one substance in small quantity, supply the place of all manures. But the search for such a substance will be as vain as that of the alchemist for the philosopher's stone, as long as plants are of their present compound nature. In some parts of this country, the mania has run on charcoal; and from the praises often bestowed upon it, it would appear that it is indeed a substitute for all manures, although *in itself*, almost or quite valueless. No systematic and correct experiments have been made with it, by which its value can be estimated, and it is highly desirable that such should be made. Wherever great results have been attributed to the use of charcoal, it has always been applied in connection with some other substance that might well dispute the credit with it. Theory cannot settle the question, though theory is not altogether useless.

Charcoal is often spoken of as *pure carbon*. This, however, is not the fact. It consists of carbon mixed or chemically combined with the earthy salts which constitute a portion of all vegetable matter. When burned in the open air, the carbon is consumed, and these salts are left behind in the small quantity of ash that remains.

It is one of the most indestructible of substances. Exposed to heat of the greatest intensity, if air is excluded, it suffers no change. Moisture has no effect upon it, nor any chemical agent. It has been said by some writer that after being in the ground for several years, it is converted into a sort of coaly earth. But on the other hand, it is well known that charred wood will remain unchanged for years under these very circumstances. It is at any rate doubtful if it is ever converted into earth, or of itself, furnishes any food for plants.

Its most important property as a manure, is its porosity; and if it has any power, it probably depends upon this. All porous bodies possess the power of absorbing gases in greater or less quantities. Charcoal, *after being heated to redness and cooled without being exposed to the air*, will absorb 90 times its own volume of ammonia, and various quantities of other gases. By this force, they are condensed into a solid form. If heated, and then cooled under water, and placed in a confined portion of atmospheric air, it will absorb all the oxygen and leave pure nitrogen. But holding these gases with all this force here, does it give them out to the roots of plants?

One class of theorists say, that the vital force of the plant will separate them. But they are locked up in the small pores of the coal, where the most minute fibre of the root cannot penetrate. Others say it is by the power of fixing gases that it is useful, without accounting for the giving them out. Now what is the fact? Water absorbs at the common temperature and pressure, from 600 to 800 times its volume of ammoniacal gas, and will not part with the whole of it when boiled. Charcoal 90, water 800. The superior force of the water is seen at a glance; and what must be the result? Simply this—if charcoal is put upon land as a manure, however much gas it may have in its pores, the first shower of rain will separate it and carry it into the earth for the use of plants, and the pores of the charcoal are filled with water. As soon as they are dried by the heat of the sun, the process of absorption commences again, and again it is washed out. This view of the case would indicate the use of charcoal as a top-dressing to crops. And this is believed to be the correct plan. Buried in the soil, it adds to its looseness, but is not exposed to alternate dry and wet as when on or near the surface.

There is another mode in which this substance is used and with undoubted benefit, and that is, in the compost heap, or as an absorbent of the urine of men and animals. The general opinion seems to be, that in this case also it acts as an absorbent of gases produced during the decomposition of these matters. That this is not the case, will readily appear, by referring to its well known action on

animal matter. If meat which has begun to putrefy, be packed down in charcoal, it is not only deprived of all bad smell, but the process of putrefaction is immediately arrested. No more gases are formed, and of course no more are absorbed. Its effect is to stop the process of decay. In this way any animal or vegetable substance may be preserved a long time unchanged.

Thus when used in the compost heap, or when saturated with urine, all the substances it comes in contact with, are brought under its influence, and when applied to the soil, are gradually separated by the rains which fall upon them, and undergo in the earth the decay which fits them to become food for plants. Used in this way, charcoal will undoubtedly be found very useful, much more than when applied alone.

It is very desirable that those who have it in their power, should make accurate and careful experiments upon this substance, to ascertain its individual and comparative value; and I would suggest to those who can do it, to try its effects in something like the following way, unless some other should appear more convenient. Take four equal portions of the same land, and treat them thus:

1. No manure.	2. Charcoal.	3. Yardmanure.	4. Charcoal saturated with urine.
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Newburgh, N. Y., Aug. 3, 1844.

A. J. P.

TO BRUTUS.

"The blood will flow where the knife is driven;
The flesh will quiver where the pincers tear."

July 15th, 1844—My eye has just rested on the article of *Brutus*, an appropo exponent of his feelings and taste. He asks whether I would deny ugly, vicious, and debased women, the benefit of a name? I say no: and would reply in part by asking a few questions. Would you, if a fine field of wheat was struck with rust, call it Canada thistles? or a sheep smitten with the scab or foot-rot, a goat or pole-cat? Proper names are given in infancy, when the blank page of life is unsullied by vice; if in after years, immorality should harden the heart, and vice bedim the bright sunshine of youthful innocence and hope, they are amenable to a higher tribunal than that of man. But the idea of giving proper names to unthinking brutes, is fraught with such ridiculous bad taste, it excites a smile of pity for the weakness of man. Two years since, at the State Fair held at Syracuse, I saw Daniel Webster, and where do you think? Tied to a pine tree, by a ring in his nose. Do you think if that illustrious statesman had been there, and seen him, he would have thought it a high compliment to behold a namesake in that condition? What gentleman of refined feeling, would think of applying the name of a wife or a daughter, to a great strapping Berkshire sow, with thirteen pigs? If the name was to expire with the animal, it would be quite an abbreviation of the error; but many of them are herd-book lordlings and princesses, whose names are recorded, and will be referred to, as long as man wields the plow and the spade for a subsistence; "yea, as long as earth bears a plant, or sea rolls a wave." Who would think of looking in the herd-book for a name for a son or daughter? and what man of high tone of moral feeling, would think of looking in his family register in the old ancestral bible, for names for his sheep and calves? If he did, I should expect his next act to be to make a golden calf and then fall down and worship it. What would be said of us as a community of enlightened farmers, if we should make it a common practice to name our male sheep, hogs, horses and cattle, after our most distinguished scholars, statesmen, orators, philosophers, poets and divines, and the females after the most accomplished lady writers of the day? If we should ever arrive at that point of animal refinement, I would propose to give them these titles also; as for instance, my bull, the Hon. or Elder or Col. The ancients recorded the deeds and names of their sages and heroes, in song and sculptured marble; we polished moderns, practical believers in transmutation, apply them to soulless brutes; they deified their great men, we brutalize them. To lend one's name to another's note, is granting

no small favor, but to have one's own name, or that of a mother or sister, taken without leave or license, to be sacrificed at the Moloch altar of beef, mutton and pork, is "carrying the joke a little too far." Would "Brutus" give his own fair name as a cognomen for a buck, a bull, or a boar? If not, remember the golden rule. By the way, I have a princely gentleman of the cow-yard; a roaring four year old animal magnetizer, whose present title is "Brutus;" if the incog. "Brutus" will send me his address, he shall forthwith become God-father to as splendid a bull as there is in the Parallelogram County.

Yours,

JUNIVS.

NOTES OF A TRIP TO LOWELL.

MESSRS. EDITORS—You will probably remember that when, on passing through your city a few weeks since, I mentioned to you my intention of making a short excursion to the eastward, you mentioned to me to furnish you with some memoranda of what I might see worth noting in the course of my trip. I declined engaging to do so, on the ground of being unqualified to write for the public eye, as well as disinclined to do so in this age of fine writing and critical animadversion. I thought no more of the matter until I reached Lowell, where, finding a leisure evening, I remembered your request, and set about scribbling a few rough memoranda, such as I here send you.

Allow me to start at Vergennes, an incorporated but small city, and by the way, the *only* city in our State. Vergennes lies on the Otter creek, eight miles north of my place of residence, and is accessible to vessels of the largest size from Lake Champlain. It has manufactures established on an unlimited water privilege, and a United States Arsenal. It is the place where McDONOUGH's fleet was built and equipped in the last war. The largest vessel in the victorious battle of Plattsburgh, was built here in 42 days; the timber mostly taken from the stump, in the mean time. Here I went on board the new packet "Garland," which plies monthly between this city and Buffalo. At her side were lashed several boats laden with iron, timber and other commodities, which were all towed to Whitehall at the head of the lake, by one of the lake steamers. On one of these tow-boats I shipped a few sheep, ordered by Mr. Peckham of Utica, which he assured me were designed to *improve* his flock "at the west."

In Albany, I met Mr. ROBERT S. WILSON, a planter from Baltimore county, Maryland, with whose conversation I was highly entertained. He is a practical agriculturist, and among the many experiments which he has been making, he mentioned one on Indian corn, which I think worthy of note. He has for three consecutive years planted seed corn taken from within an inch of the butt end of the ear, and the result has been he has obtained a mature crop of corn, some two or three weeks earlier. I have never tried the experiment myself, but I am confident the corn crop can be forwarded in this way, from the fact and for the same reason that beans taken for seed from the lower part of the vine which mature first, have been found on trial to ripen some time sooner than those taken from the upper parts which mature later. Mr. Wilson informed me that great improvements were making in the agriculture of his State, particularly by some enterprising individuals who had emigrated from the eastern States, and he thought that those who chose to settle there, with help brought from the east, would find themselves able to invest money very profitably in lands and agricultural operations; that lands were now at their *minimum* price, and would in a few years advance in value a hundred per cent. He said that he himself raised last year a crop of corn from a piece of "worn out land," as the lands exhausted by long cultivation are there called, which yielded 70 bushels to the acre; and that his crop now growing, promised him an average of 100. He remarked further, that bone dust was one of the best fertilizers for these lands, which they had found; and that this could now be procured in plenty and very cheap, in the cities and market towns.

In New-York, I called on Mr. Van Ness, the collector of customs, not to obtain an office, (Heaven forbid!) but

to obtain from him such information and assistance as he might be able to render me in reference to a contemplated voyage to Spain; he having been lately our Minister to that country. He obligingly gave me such information as I desired, and promised me such letters as might be useful to me abroad.

Leaving New-York for Providence, I passed in one of the noble steamers, through Long Island Sound. It being clear and calm, we had a delightful view of the city as we passed it, and the scenery along the shores of Manhattan and Long Island, surpassing any prospect that I ever before witnessed. The improved cultivation along the banks, the elegance and taste displayed in building, fencing, laying out of gardens, parks, alleys, &c. and arranging copses, shrubbery, &c., all added a beauty and loveliness to the scenery which seemed more like enchantment than reality.

Along the route between Stonnington and Boston, I observed that the field crops were suffering considerably by drouth, though all along the border of Lake Champlain, the Hudson and the Sound, they were quite promising. The grass crop is not as heavy in general, as last year; but the quality is I think better than I have ever observed before; red and white clover literally cover the ground with their blossoms. In Vermont, the wheat harvest has never appeared better within my recollection. There is sufficient growing to supply the State at least one year. Last year the average crop was about 18 or 20 bushels to the acre; this year, I think the average will reach nearly 25. The Black Sea wheat will be of incalculable value to the State, should it continue to yield as it has done for the few years since its introduction.

But to return: I made but a few hours stay in Boston, and consequently saw but little of that beautiful and flourishing city—a home for Yankees. I called, however, on the editors of the Boston Cultivator. Mr. PEDDER I found at the office, and the short interview I had with him assured me that he was an enlightened practical farmer, and I was particularly interested in his intelligent observations respecting the management of sheep. He said he had formerly had the charge of (I think) about 13,000 in Pennsylvania.

At Lowell, I called on SAMUEL LAWRENCE, Esq. I found him at his mansion-house, a little out of the city, on elevated grounds, which command a fine view of the city and adjacent country for many miles in circuit. He has just finished his house, which may be fairly called a palace. It is of wood—a very elegant and costly style of building, and finished in exquisite taste. But however pleased I was with the mansion itself, I was still more so with its worthy owner and inmates.

I found Mr. Lawrence clad in checked cloth of his own manufacture, such as he sells at \$1.25 per yard. He said he had worn no cloth other than of his own manufacture for fifteen years.

On arriving at his factories, I was much surprised to find manufactured there every kind and quality of woollen cloths, from those worn by the humblest, to such as are chosen by the wealthiest citizen of our land. I learned that the two factories under his charge, had consumed 3,300 lbs. of wool per day for the last month, and that the general average through the year is 3,000 lbs. per diem. I saw piles of wool in the fleece, in his warehouses, all of last year's clip or older, to the amount, as I was told, of more than 1,000,000 lbs.

Mr. Lawrence pays *more* for fine wool, and *less* for coarse, than any other purchaser. His prices varied from 25 to 80 cents; for many lots that bring 38 and 40 cents in Vermont, he could not offer more than 32 to 35 cents. Mr. L. says he has no doubt that the weight of fleece may be increased in our flocks, without injury to the pile; that the length of staple was no detriment to the manufacturer, and that this would soon be recognized as the first wool-growing country in the world, with the best and most profitable breeds of sheep. He further agreed with me respecting the competition from the west, that Vermont had nothing to fear at present—that if he owned 1,000 sheep, he would sooner place them in Addison county, Vermont, than to send them to the prairies of the west.

The contrast between the condition of the laborers in

this manufacturing city, and that of the "operatives" in the cities of Europe, must forcibly impress every intelligent and humane mind. Here, instead of poor, emaciated and haggard forms, and visages worn out with sleepless and never ceasing toil, all appeared blooming, cheerful and healthy.

In no city in our country can be found so great a proportion of young, healthy and neatly clad people. Among the whole populace, I saw not a single pauper or beggar. What a contrast this with the ragged, sickly, beggarly thousands, that throng the streets of Manchester and Leeds!

On Saturday eve, the walks were filled with young "ladies," as they may well be called, neatly, and many of them even elegantly dressed, presenting those native decencies, proprieties, and even graces of manner and movement, which many of the highborn and fashionable belles of Broadway might advantageously copy.

Who ever heard of a literary journal conducted by factory girls in any other country or place? In the city of Lowell is issued a neat little monthly sheet called "THE LOWELL OFFERING," written, edited and published by the working girls in the factories!

In Mr. Lawrence's woolen establishment, there are employed 550 females, and about 250 males. In the different factories of the city are 6,295 females and 2,345 males. Many of the girls who, when they came to Lowell, had left their parents in poverty and distress, have, by their diligence at the spindle and the loom, removed from their grey hairs the pressure of penury, and rendered their last days comfortable and happy. Some have even been able to pay off mortgages and recover from alienation their patrimonial inheritances. The girls usually receive from \$1 to \$2.50 per week with their board, making an average of about \$1.75. There is a Savings Bank in which they deposit a considerable portion of their wages, bearing interest. In their moral condition and character, the operatives of both sexes are not inferior to any portion of the community. On Sunday morning the streets are full of young people at the ringing of the bells, walking in orderly procession to their respective Sunday schools and churches.

The factories in Lowell were commenced in 1825. There are now thirty-three in successful operation. There are 8 establishments for calico printing, besides which are powder, flannel, blanket, batting, and paper mills, grist and saw mills, foundries, &c. The total number of yards of cloth (cotton and woolen) manufactured in a year by all the mills is 74,146,600, which amounts to 230,000 yards per day.

In taking leave of my hospitable and excellent friend, Mr. LAWRENCE, I cannot but remember the deep interest he manifested in agriculture, especially in the rearing of sheep. On the centre table of his splendid parlor lay, in elegant bindings, the three volumes of the "Transactions of the N. Y. State Agricultural Society," and two volumes on the "Domestic Animals of England, with Engravings."

I observed nothing novel in my hasty journey home, through a part of Massachusetts, New Hampshire, and across the Green Mountains, except the mode of quarrying the granite in New Hampshire, and the very common use of it in sections of that state. In separating the blocks from the mass, small holes are drilled in a straight line a few inches asunder, into which wedges are inserted, which being gently and evenly driven, sever blocks of any required length; these may be afterwards subdivided in the same way. So easily is this hard material quarried, and so easily wrought, that it is considered in many parts of the state, the cheapest material for posts and fixtures requiring strength. As we passed along the road, I saw great quantities of these posts in the railing of bridges, viaducts, ornamental fences, and common fields enclosed with these granite posts, into which are fitted wooden rails. The price of these posts varies according to finish and size. Small plain posts may be furnished for a shilling a piece. Crossing the Green Mountains, I reached home safely, and was not at all displeased to think of remaining on the banks of the Otter.

SOLOMON W. JEWETT.

Weybridge, Vt. July 20, 1844

ON THE YOLK OF WOOL.

MESSRS. EDITORS—This substance is also called *eke*, in some parts of the United States, and with much propriety, as it is continually eking or oozing out of the skin. The words *eke* and *yolk*, or *yoke* as it is frequently pronounced, appear to be derived from the Saxon word *eac*, which in their language, is pronounced *coke*. So that between the spelling and the pronunciation, the two words *eke* and *yolk* or *yoke*, are made out of the same word. In the present state of the English language, the word *eke* seems to define this secretion of the skin with propriety, and the words *yolk* or *yoke* seem to be the Yorkshire dialect for the same thing.

The *yolk of wool* is a kind of soap which is composed of potash and an adhesive oil, and the potash is super-saturated with this oil, and to it are added small quantities of carbonate of potash, acetate of potash, muriate of potash and lime. That it is principally a soap, in which the alkali is super-saturated with oil, any person may convince themselves by putting some alkali, either potash or soda, into some rain water, and washing some *eky wool* in it. The *eke* will be turned into a perfect soap, and the wool made clean with the greatest ease.

The uses of the *yolk* appear to be as many as three:

First—it makes the wool soft and lively. Hence that kind of *yolk* which is most abundantly saturated with the adhesive oil is best. It will then adhere to the ends of the wool as well as to that which is near the skin; and every part of the wool will be kept lively—whereas, if the *yolk* is almost nothing but a mere soap, as seems to be the case with the *yolk* of some kinds of sheep, it will be washed by the rain out of the ends of the wool, and such ends of the wool will become dead as it is termed, and will felt unevenly.

Second—the *yolk* forms a defence against the weather. If it is of such a quality that it will not be washed out by the rain, it will be for the sheep a complete coat of mail, and it must be a severe storm of rain or snow which will completely wet through such a fleece. In Scotland, after the lambs have been weaned in autumn, it has been customary to milk the ewes a few weeks, and from their milk to make a quantity of butter, and then mixing this butter with tar, say two or three parts of butter with one of tar, they prepare a kind of artificial *yolk* in order to soften the wool and defend the sheep against their wintry rains and snows.

If they find it profitable to take so much pains to make this artificial *yolk*, how carefully should he who owns merinoes, breed them together so as to preserve the proper quantity and quality of the *yolk* upon his sheep? and if there is any especial reason for preserving merinoes pure, it is the preservation of the quantity and quality of the *yolk*.

Third—there is very little taste to the *yolk*, and yet it appears to be in some measure a defence against flies and worms. The tick seems to be the only animal which can live comfortably in pure *yolk* of wool. No fly of North America will lay its eggs in pure *yolk* of wool of the merino. It is only when the *yolk* is mixed with blood or mucus or some other animal matter, that the fly will deposit eggs which will make worms. The sheep of England are very much troubled with maggots coming from eggs deposited by the fly in the wool itself. But it would seem that they must have some different fly from what is found in America; for British sheep in America are not troubled in this manner. And after wool is shorn, it will not be disturbed by moths so long as the *yolk* is left in it. This to the wool buyer is a very useful property of *yolk*. And he always buys it, making proper allowance for *yolk* and dirt, and buys it readily when it is black with *yolk*, knowing it to be good; and all the compliments for clean wool which are purchased by raising sheep which are deficient in this useful article are dearly bought.

C. D.

COTTON CROP OF FLORIDA.—A letter from G. F. Baltzell, Esq., dated Oakley Hill, July 24, says—"The planters of this country will again be seriously injured by the caterpillar, lessening the crop of the staple to one third of their expectations two weeks ago."

AGRICULTURAL INSTITUTIONS.

BY ALFRED L. KENNEDY.

That the ignorance of true theories and improved processes of agriculture, which prevails in most sections of our country, can be radically removed only by establishing agricultural schools and colleges, is a proposition that receives the universal assent of intelligent men. The question on the necessity of these institutions, is settled throughout the civilized world. Our duty now manifestly is, to adopt the best plan, and then to put it in execution forthwith. This duty is of no mean proportions. The causes of the difficulties, changes and failures of like projects, must be well studied ere we can expect to profit sufficiently by their experience to avoid their fate. That these difficulties are not invariably fatal, is evidenced in the continued and flourishing existence of schools, which are widely illuminating the toil of the cultivator. We propose to sketch a few interesting particulars of the most prominent of these institutions. They may be most conveniently treated under two heads. Those which, to an *academical* course, unite the theory and practice of agriculture, and those which teach agriculture only.

The schools of the first class, are based upon the Institution at Hofwyl, in Switzerland, under the direction of its noble founder, the philanthropic M. de Fellenberg.* It consists of three schools, literary, agricultural and intermediate. In addition, lectures to teachers are annually given. The literary school commenced by the introduction of three children into the family of the principal. In 1807 the first building was erected for it. In a few years the number of professors gradually increased to 20, and the pupils to 80. The studies comprise, in addition to those taught in our colleges, music, dancing, fencing and cabinet-making. The latter gives facility in the use of tools, incites habits of industry; and as the product of the student's labor becomes his own, and is generally sent home as a present, neatness of execution and filial affection are encouraged.

The object of the Agricultural School is to afford children of poor parents an opportunity of acquiring an excellent education, while they gain a practical familiarity with the most improved farming processes. This was commenced in 1808, under the most unfavorable auspices. The children were of the worst possible description—brought up in idleness, they were literally taken from the hedges and highways. Yet by receiving a few at the onset and slowly increasing the number as the first became subject to the admirable discipline, a perseverance that nothing could daunt, has successfully established an institution whose benefits have excited the admiration of the friends of education every where.

"The pupils are admitted at an early age, there being however, no fixed limits, and are expected to remain until 21, if supported gratuitously. By so doing, they would be enabled by their manual labor to repay the expense of their maintenance and education, so as to leave the institution without pecuniary obligation. They would besides, be detained beyond what is considered the most critical age. In practice, however, it is found difficult to induce this lengthened stay, the actual expediency of which must depend so much upon individual circumstances. In addition to the gratuitous pupils, others are taken, who pay in part or entirely for their education. In summer, the time occupied in labor is from eight to twelve hours per day, and in instruction from two to four hours. In winter, the amount of labor is less, and of study more. During the time of harvest and hay-making, the instruction is omitted altogether."

In winter, the hours not devoted to the care of cattle, threshing, and other farm labor, are employed in the agricultural machine shop, in making baskets, straw mats, in selecting seeds and in breaking stone for repairing roads. The pupils are encouraged to labor on their own account. Each has a small portion of land for the cul-

ture of vegetables and flowers, the profits of which are his own.

As an example of *incidental* instruction, we subjoin the following:

"In laying out the ground for different crops, for planting, or for spreading manure, care is taken in determining the points, in drawing the lines parallel, in measuring the distances, and the intervals of the plants with the eye or by paces. The number of plants or heaps of manure is calculated, and the whole is a lesson in geometry and arithmetic, as well as an exercise of accuracy and foresight."

"In cutting the trenches for watering an artificial meadow, the level of different portions is observed by some; others trace the lines in such a manner that the water shall perform the circuitous route necessary to supply the whole of a given space without descending below its level; and others still place the sluices necessary to prevent excess in one part or deficiency in another. All these operations are practical lessons upon the laws of gravitation, and are often employed in the most striking manner to lead the pupil to the existence and influence of this universal agent. If the pupils are engaged gathering the stones out of the fields, these become the subjects of examination, first in reference to color, hardness and texture, then the uses to which they are respectively applicable, and finally their name, either in the moments of rest, or in some of the lessons of the day. The instructions thus received, are recalled almost involuntarily at every fresh operation of the same sort; and such associations serve to divest this lowest of agricultural occupations of its purely mechanical character."

"If they are clearing the ground of weeds, the name, characteristics and qualities of each one are made the subject of remark. The relative effect of sun and air and moisture and cultivation, upon these plants, and those of a useful nature, is necessarily brought to view by the observation of the pupil, and by the instructions given him, and inferences are then drawn as to the best mode of exterminating them."

The intermediate school was established to supply an education for the sons of the "middling classes," in a style correspondent to that of the parental roof. Free from the glare and show that frequently attach themselves to boarding schools, and give the pupils fondness for fashion and extravagance, that ill comports with home notions. Farm labor, however, forms no part of the course.

The success of Hofwyl led a number of wealthy friends of agriculture in the north of Ireland, among whom was Earl Spencer, to project a similar establishment there. This led to the Institute at Templemoyle, 6 miles from Londonderry. Believing that similar benefits would accrue, it was proposed, as at Hofwyl, to establish both a Literary and an Agricultural College.* This was abandoned after much expense had been incurred, and the energies of the Company directed to the latter. It is not, however, a school for special instruction, since the English branches and mathematics are taught in connection with the principles and practice of agriculture. Pupils are received from 15 to 17 years of age; and 3 years are considered sufficient to complete the course. In 1837, 66 young men were preparing themselves for the thorough management of farms. The annual charge for maintenance and tuition (about \$50,) is not sufficient for their support. For convenience, the pupils are divided; one half being with the teacher, the other in the fields; thus working and studying alternately. Ten hours a day are thus appropriated.

"The direction is vested in a committee of the subscribers, each of whom pays \$10 per annum, and who alone have the power of proposing pupils. The immediate control is divided between the Agricultural Master or farmer, who regulates the agricultural affairs, the School Master who divides the time of pupils with the farmer, and the Matron who has charge of the domestic economy

* For an acquaintance with this distinguished man and his noble undertaking, the English reader is mainly indebted to Rev. W. C. Woodbridge, Editor "Annals of Education," to Prof. A. D. Bache, in his able Report to the Councils of Philadelphia, on Education in Europe, and to "Letters from Hofwyl, by a parent," London, 1842. From these authorities we have freely quoted.

* To establish the schools, one hundred and sixteen shares of \$125 each were subscribed by different Companies and individuals, and \$6,000 were subsequently subscribed for the erection of the buildings at Templemoyle. Various other donations have been made.—[Bache's Report.]

of the establishment under the direction of the farmer and instructor."

The school at Templemoyle is a most gratifying example of what may be done by a few ardent friends of the farmer *without Legislative aid*. On a farm of 150 acres, and with a system whose details are marked by great simplicity, an Institution has been formed, of the highest practical benefit. The advantages derived during the 27 years of its existence have enlisted the entire community in its favor; and seldom have we been more gratified than in hearing the encomiums passed upon both school and pupils by former residents of the neighborhood—a gratification of course mainly derived from the anticipation that thus encouraged the farmers of our beloved country would be quick to furnish their own sons with similar instruction here.

Class 2d. Schools for special instruction.

As an example of what has been done, and shall we not say, may be done? when Agricultural Societies, aided by government, exert themselves, "The Agricultural Institute of Wirtemberg," is well deserving a notice. This was founded in 1817 by the Agricultural Society of Wirtemberg, under the patronage of the king, who devoted a royal seat with extensive buildings to the purposes of the Institution. There are two departments—in the higher, the object is less the acquisition of manual dexterity in the operations of agriculture, than the knowledge required to superintend them; while in the lower, the practice is the chief end. In the higher, for tuition natives pay \$40, foreigners \$120 per annum; and for meals, &c., paid in advance to the Steward, \$40. In the lower, natives are admitted gratis, if their circumstances require it, otherwise \$40 for three years. The officers are appointed by the Agricultural Society. The Director is an instructor; there are also a treasurer, 4 regular and 4 extraordinary professors, besides an overseer and steward; number of students in 1837 was 99. Applicants for admission must be 17 years of age, and possess the necessary qualifications for the prosecution of the course. The pupils of the lower school are engaged in operations on the farm, garden, &c. They also attend certain of the lectures given to the higher classes, and receive instruction when not engaged in labor. They are paid for work done, by which they are enabled to defray the expense of maintenance. Those who display great skill and industry, receive premiums.

The agricultural course of the higher school generally requires two years. The same period is required for that of forestry.

Branches of special theoretical instruction:

1. *Agriculture*. General principles of farming and horticulture, including the culture of the vine, the breeding of cattle, growing of wool, rearing of horses, raising of silk-worms, arrangement and direction of farms, estimation of the value of farms, book-keeping.

2. *Forestry*. Encyclopedia of forestry, botany of forests, culture and superintendence of forests, guard of forests, hunting, taxation, uses of forests, technology, laws and regulations, accounts, and technical correspondence relating to forests.

3. *Accessory branches*. Veterinary art, agricultural technology, especially the manufacture of beet sugar, brewing, vinegar making and distilling. The construction of roads and hydraulic works.

General courses:

1. *The Natural Sciences*. Geology, physiology of plants, botany as applied to agriculture and forestry, natural history of animals beneficial or noxious to plants and trees. General chemistry, and its applications to agriculture, physics and meteorology.

2. *Mathematics*. Theoretical and practical geometry, elements of trigonometry, arithmetic, elements of algebra.

The farm of 960 acres is thus divided; arable land 501; meadow, 242; fields set apart for experiment, 33; woodland, 13; nursery, 67; hop plantation, 2; botanical garden, 14; ground for pupils in plowing, 2; garden, 1; otherwise appropriated, 85.

For the further advantage of pupils, the arable land is cultivated according to five different rotations; a large stock of cattle of different breeds, foreign and domestic, and

of sheep are kept; agricultural implements are made in a work-shop attached; collections of seed are made for lectures and sales—useful seeds are distributed throughout the country. There are collections of soils for analyses and lectures; philosophical apparatus, library and laboratory; also a cider press, beet sugar manufactory, brewery, distillery and vinegar manufactory.

We have already extended this article much beyond our intended limits. We have written that the reader, knowing what has been done, may be the better enabled to form a tangible idea of *what he should assist in doing*, viz: *blessing our country with like Institutions*.

Philadelphia, July, 1844.

LETTER FROM RICHMOND

Of Staten Island, New-York, to his friend SOLON ROBISON, of Indiana. Dated at Oakland Farm, July 4, 1844.

DEAR SIR—I have been some time in your debt, and I now set down to discharge the obligation, by answering your last agreeable letter. In this part of the country, the season has been favorable, the crops in general look well, and the in-gathering has commenced earlier than usual. Although in the midst of harvest, I am enabled to devote a portion of the day to you, because my farm laborers have been allowed to absent themselves and partake of the festivities and amusements of our national anniversary at a neighboring village. The day is delightfully clear, cool and pleasant, and all nature puts on a smiling aspect. When I look upon the fields teeming with bountiful crops, and the whole country blessed with peace and plenty, I feel that we ought to be very thankful to the "Good Supreme,"* who hath placed us in this favored land, and rewarded our labors with abundance.

In your last letter, (Cult. for March, 1844, p. 92,) among other remarkable facts in relation to the western lands and prairies, you mention a cause of sickness in the wooden curbs of wells. This is doubtless the case, and permit me to point out the remedy, which may be easily applied. If the lower section of the curb, beneath and above the water, was completely burnt or charred before being sunk, it would preserve the wood and sweeten the water. Within my memory, no vessel going on a long voyage, could preserve the water pure and free from the smell and taste of sulphuretted hydrogen, which also produces the bilge water effluvia from the hold of a ship. Water contained a length of time in casks of sound oak wood, will nevertheless have a bilge water taste and odor. I recollect some forty years ago being invited on board a vessel returned from a voyage to the West Indies. The captain, as was then the custom, presented his bottle of Jamaica spirits which was mixed with water so nauseous from the bilge water smell, that I could not drink it. I was laughed at as a land lubber, for not being able to stomach the mixture. The captain and crew from habit were unconscious of its unpleasant and unwholesome qualities. Sickness sooner or later follows the use of such water. I could point out some remarkable cases of sickness on ship-board, of fevers and scurvy, from the drinking of similar foul water in former times. But this is unnecessary, as the subject is now well understood, and the evil is remedied by charring the inside of water casks. The same process applied to your wooden curbs, would have the same effect, but they should be charred inside and out. This may be done by burning brush, straw, or prairie grass in and around the curb until it becomes completely charred, and then it will last for ages. A swab with water as used by coopers, can be applied to prevent burning too deep.

One other means of promoting health in the families of your western settlers and log cabins, would be to whitewash the houses and fences. I presume the article of lime can be procured, as I know limestone abounds in all the country around you. Applying a white color to houses in the country, either of white lead or white wash, makes an agreeable contrast with the surrounding green of the grass and trees, and gives an air of elevation and liveliness to the scene. I remember being impressed with these ideas, when in my younger days, I first

* "Father of light and life, thou GOOD SUPREME."—Thompson's Seasons.

traveled through your native State of Connecticut. In passing north from Hartford, the scene suddenly changed, and the houses and barns were either not painted, or painted with a dingy red or ochre color, and upon inquiry I found that I had passed the State line, and was in Massachusetts. This kind of paint gives a dirty and sombre appearance to buildings. Whitewash is a cheaper application than white lead, but then it is sooner and easier applied, and must be annually renewed. The renewal however, promotes the healthiness of the locality where it is applied. On this Island, some of the inhabitants, rich and poor, whitewash their houses inside and out, and you may see barns and other out-houses, and long lines of fences about gardens and along the public roads subjected to the same treatment. It promotes cleanliness and health, and preserves the wood to which it is applied. To prevent its being washed off by rains, I slack the lime with hot brine, or boiling salt water.

The want of fencing timber to enclose farms upon your western prairies, caused me, in a former letter, to propose the propagation of forest trees for shade and fencing. The yellow locust tree you say is indigenous there. I also named the red cedar (*Juniperus Virginiana*), because I had seen in one of the volumes of the *Cultivator* an inquiry for the seeds to be planted on the prairies, and I could furnish you with them. Since you have the locust, why not propagate it from the seed, and in a short time, portions of the prairies will be timbered with a valuable tree, and one easily raised.

But at present, as you have not the timber, farms might be enclosed and divided into lots by earthen sodded walls. Some years ago I employed an Irishman who divided a field by such an embankment. Taking off the sod in the line of his wall, three feet wide with a spade, he laid the square portions on one side, and then dug a trench, heaping the contents on the other, and when of sufficient height, covering the mound with the sward.

Thus, on your prairie lands, where there are no obstructions from rocks or stones or stumps, and where the sward is matted together by many roots, such enclosures may be easily effected. Now suppose a site selected for a house on a prairie, and one or two acres for a garden and out-houses, thus enclosed, and locust seed or acorns, or chestnuts or walnuts, planted on the embankment. In a few years a growth of young trees would surround the premises, add utility to beauty, and tend to fix your nomad or wandering population, and lead to other permanent improvements. But these, I apprehend, are remote, as long as so much new land lies still farther west, which will entice the adventurous pioneers until the Pacific ocean arrests their course. Substantial improvements cannot take place with a moving population. Farmers must have stronger local attachments to effect such improvements, and induce others to unite with a laudable pride in making the country to smile with an improved and flourishing agriculture.

But under existing circumstances, the prairies would probably be turned to best account in raising sheep and cattle, converting the grass into beef and wool. Those animals, however, reserved for domestic purposes, as a few sheep for mutton, and cows for their milk, if kept within enclosures, would prevent the necessity of hunting them up in the distant woodland or on the naked prairies, or going without milk and cream as related in your last letter, (Jan. 20th, 1844.)

After the enclosure by earthen embankments of the house, barn and garden, as proposed above, would it not be advisable to extend them and make a number of enclosures of several acres each in extent, about and near the dwelling-house, that the milch cows and calves and sheep should be within a reasonable distance, and easily driven up when wanted, and as the pasture became short in one field, to be turned into another, while the herds of larger numbers were allowed a wider range?

The farmers in these parts, where land is dear, labor high, and produce low, complain that they are undersold in their customary markets by the abundance of agricultural produce pouring in upon them from the cheap lands and rich soil of the teeming west. This, though a general blessing, is in some cases a local injury. My neigh-

bor who was so skeptical about your cultivating in one field 500 acres of wheat or Indian corn, is now inclined to sell out and go west. He is much discouraged with toiling from year to year and not going ahead. He raises an ample amount of grass and grain for home consumption, but for several years past, if he wanted to sell any of his produce, the price was so low that it did not pay the cost of labor and manure. He would take the *Cultivator* if he was settled in his mind whither he should go. His land is worth \$100 an acre, but he will not readily find a purchaser who would occupy it for mere farming purposes, at the present price of agricultural productions; but for an amateur farmer it would be an eligible location on account of its elevation, gradual slope to the water, and its beautiful and commanding sea prospect.

Farewell for the present. I won't vote for John Tyler, because, among other reasons, he improperly turned you out as Post-Master, a situation in which you was doing more good to the cause of agriculture, than he in all his administration. Again I say farewell.

RICHMOND.

SCIENTIFIC EXCHANGES FOR FARMERS.

MESSRS. EDITORS—No class of the community would probably be more benefited by a general system of exchanges in works of nature and art, than farmers. Besides being the largest class, and as individuals equally interested with any other, in general improvement, their profession leads them more directly and practically than any other, to operating among the works, and of course, by the laws of nature. Among the almost endless variety of specimens in the vegetable kingdom, which might profitably be articles of exchange, seeds would be among the most instructive and useful; and certainly not less so to the farmer than the botanist. Nor would his interest be confined to the seeds of plants which are, or may be cultivated. As it is frequently useful to know our enemies, farmers would often be benefited by a more perfect acquaintance with plants which annoy them. A knowledge of the classes, or *natural families* of plants, is exceedingly useful to farmers. This can only be acquired by an acquaintance with individuals, in their different relations, and especially in their fruit or seeds.

As an example of the ease and extent to which exchanges in such specimens, may be instituted, a proposal, a year or two since, in some paper or papers, for young people in different parts of the country to collect the seeds of plants, embracing forest trees, fruit trees, weeds, &c., brought a collection of some thirty kinds from a lad in Ohio, to a gentleman in Philadelphia. With the seeds were specimens of the leaves directly, or impressions of them made by himself, using the smoke of a lamp for the ink, and his hand for the press; an excellent process by the way, for conducting agricultural exchanges, to some considerable extent. The process is so simple, that a child of five years can perform it, and as far as the general texture and shape of the leaf is concerned, the representation is more correct, than can be made by any drawing or engraving. The leaf is used as the type for imprinting itself.

In 1785 the government of France sent two men, the elder and younger Michaux, to this country, where they were employed for eleven years, principally to ascertain what trees and other vegetables found here, could be introduced to advantage into that country. It is perhaps not less interesting for American farmers to know what plants from different parts of the world, could be introduced here for their cultivation. And it must surely be evident, that the most instructive, economical and complete mode of ascertaining this fact, is by a system of exchanges with all parts of the world, in plants, with other specimens, both of nature and art.

In no department of agriculture, probably, have greater improvements been made within a few years past, in none perhaps, are so great yet to be made, as in manures. In many instances, inexhaustible deposits, before supposed to be useless, have been rendered instrumental, virtually, in producing a new creation; as they have given to large tracts of land, previously deemed worthless, the

value of from fifty to a hundred dollars an acre. Such are the marl beds in New-Jersey, and some other States. Now suppose that specimens of marl and all other fertilizing substances were collected by those acquainted with them, and sent to different Exchange Lyceums, agricultural depositories, or other convenient places for exchange, exhibition, &c., could they hardly fail to lead to the discovery of new deposits of the same, or perhaps different substances, useful to farmers?

Agricultural implements might be much improved, and those already improved, more widely extended among nations, by scientific exchanges. In some of the oldest countries, the plow is to this day, little more than a crooked stick, sometimes improved by pointing it with iron. In Asia Minor, the Islands of the Mediterranean, and other regions which were the fields of the earliest and most interesting events recorded in history, agricultural implements are of the rudest kinds. They contain not only specimens of antiquity, as curiosities, but fertility of soil, variety and richness of natural productions, which if rendered fully available, would not only aid in raising the inhabitants from a state of heathenism and semi-barbarity, but by reciprocating with those advanced in agriculture, in arts, intelligence and Christianity, might give knowledge to others, while they received it themselves. Not long since, some bare-footed girls and boys, collected from the streets of New-York, for and by scientific lectures, given weekly, especially for them, were led to prepare and collect specimens, both of nature and art, which have been sent to different countries, especially to Mexico, and in return, have brought, among other specimens, some Indian curiosities, which have interested and instructed great numbers of our most intelligent citizens. Such exchanges, varied and extended, as easily they might be, and will be, may introduce to Mexico, also to South America, many improvements in agricultural implements, and procure for them some plant, mineral, or other specimen from those countries of mines and of inexhaustible natural resources, to enrich our own fields, both of agriculture and of general science.

But how can such exchanges be commenced and carried out by and for farmers? By means, as simple and direct, as the field is vast, and the enterprise grand and magnificent. If it can be instituted between the street boys and girls in New-York, and the young Mexican Indians, the sons and daughters of our intelligent farmers, can surely find no obstacle in their way. One step they can take, is to pick up, and examine and preserve the first pebble they see, and seek for an opportunity to learn its name and properties. Not unlikely some person may think it a great bargain to give the owner the knowledge he desires, in exchange for a part of the specimen. The specimen, with its name and properties, may then be taken to the school attended by the owner, where some fifty or a hundred others will also know it, and perhaps give for it something brought by them, each leaving a part for the school cabinet. Before they are aware of it, they will have specimens worthy of sending to New-York, Philadelphia, Boston, or some other seaport, whence it may go to Mexico, South America, France, England, Germany, or some other place, bringing in return, other specimens, which may find their way to the school or family, or the hand which picked up the first pebble it met.

This is not only describing what may be, but what has been, in instances too numerous to be mentioned here. Numerous facilities are now enjoyed for extending such exchanges widely and rapidly. Geological surveys are completed or commenced in nearly all the States. By them large collections are made, and much knowledge diffused. These specimens, and this knowledge, may, and ought, and will be used for extending them more widely; and no one step, perhaps, will be as direct, or effective, and certainly no one is more capable of universal application, than that just mentioned. A mineral will lead to a plant, and that to a drawing, and the drawing of a plant to one of an insect, bird, ox, horse, or some agricultural implement, which might be exchanged, greatly to the mutual advantage of Americans and Mexicans, Yankees and South Americans, &c., in addition to a highly beneficial, scientific and agricultural commerce,

between the towns and States of our own Republic. Let the word *Begin*, and the thing *BEGIN*, be shown by boys and girls in schools and families through our country, and the work of *Agricultural Exchanges*, by the side of a general system of scientific commerce, will be more than half accomplished.

Such, at least, judging from long and large experience, is the opinion of your friend,
JOSIAH HOLBROOK.

TO THE OWNERS OF THE SOIL.

MESSRS. EDITORS—Now, in the sultry season, is the time to make an impression upon the owners of the soil, in favor of planting shade trees on the sides of our public roads. No one is insensible to the refreshing coolness and enchanting luxury of a drive through a forest; and what man or beast is not delighted to reach a little skirt of wood, behind which to shelter himself from the blaze of a summer sun, even though his journey may be of but a few hours duration. How many there are who own good carriages and horses, that forego the pleasure of traveling with their own conveyance, and betake themselves to canals and rail-roads, because the prospect of traversing shadeless, dusty, or muddy roads, is so cheerless. There would be less labor and more economy in the end, in having good roads the year round, than bad ones, the wear and tear of horses and vehicles over muddy and uneven roads, is one proof; the extra time thus consumed, is another. There has doubtless been labor enough assessed on the highway for the last twenty years to have Macadamized every rod of them had it been judiciously superintended. Why cannot the people feel as engaged in meeting together for the purpose of devising ways and means for improving and beautifying the country, as for a thousand minor purposes. The reason is, because it is merely optional; it can be done or let alone; and letting it alone is the easiest. There is scarcely a man in the State who owns so much land, that he could not in the ensuing fall and spring, put out good forest trees on every line of his farm bordering upon the road, without feeling that he had spent sixpence or lost a day's work, at the end of the year. Instead of seeing farmers taking little jaunts across the country of forty or fifty miles, we see them riding post haste half a dozen miles to reach a rail-road, and are perhaps left in the same predicament—that is, as many miles from their place of destination. It appears to me that farmers should resort to rail-roads only when business compels them to travel faster than horses can carry them, for this reason; while traveling either for business or pleasure, they can enjoy the privilege of viewing the farms of their distant neighbors, noting the prospect of the different crops, and get many useful hints with regard to buildings, fences, water fixtures, &c., and finally, they can take their wives with less expense, than to go alone by public conveyance. One thing more respecting roads; as district schools are becoming so deservedly popular, parents and guardians should see that there is a good side-walk, that their children may get to and from school, with their feet clean and dry; it will save half the distance, and perhaps twice the expense in shape of doctor's fees.

Onondaga County. A FRIEND TO IMPROVEMENT.

DOMESTIC MANUFACTURES.

To the Committee for awarding premiums on in-door manufactures:—Is it policy to award premiums for paintings, worsted needle work, or work of any kind that is merely ornamental? The object of giving premiums, (if I understand the matter) for the best specimens of domestic manufactures, is to promote industry in the useful arts, and encourage those to work who perhaps would not without this inducement. There always was, and probably always will be, time enough expended in the manufacture of useless articles, without offering premiums for them. Few ladies are so indolent that they will not perform work of this kind, as the means of passing time, even though there may be at the same time, a sad deficiency in the quantity of bedding, linen, &c., in their houses. Besides, the poor are cut off from competition in

this branch of industry, they can neither afford the materials, or the time to learn to use them.

Furthermore, would it not be judicious (when awarding premiums for in-door articles) to consult the opinion of ladies who have been in the habit of manufacturing more or less of the same kind of goods; they certainly understand better than gentlemen can, the difficulty in performing different kinds of work, and the time and expense requisite for the completion of the articles. For instance, the premium on table linen and sheeting, is small, compared with the premiums on flannel cloth, stockings, yarn, &c. No one can understand the difference in the labor required to make a yard of woollen or linen cloth, unless they have actually made both. I should be glad to see this branch of labor more encouraged; the foreign article is too expensive for common use, consequently most families are almost entirely destitute of good substantial linen. A FARMER'S WIFE.

Onondaga Co., Aug. 1, 1844.

THE LATE DR. SAMUEL L. MITCHILL

Of the city of New-York, and his labors in aid of Agriculture.—No. 3.

Our second number contained an examination of Dr. Mitchell's first address delivered before the old Agricultural Society. His second, before the same body, was delivered at Albany on the 7th February, 1798. In 1792 he was a member of the State Legislature from Queens county, but in 1798 a representative in the Assembly from the city of New-York.

In this second address he adverts more particularly, than in his first, to the subject of manures. Therein we shall find that he has anticipated Davy, Liebig, Johnston and other late writers, by pointing out how azote or nitrogen may become a vegetable fertilizer.

"On the subject of manures (says he) there has been a good deal of valuable experiment and speculation. Mr. Kirwan's excellent pamphlet was forwarded to the Society by a member of the British Board of Agriculture; since which I have been favored by Dr. Dickson, late of Dublin, with the last volume of the Transactions of the Royal Irish Academy, which contains this memoir. On perusing it, there appeared to be one memorable defect; there was very little written on the *azote* (or nitrogen) of the modern philosophers, or the principle of putrefaction as a fertilizing ingredient in soils, or a nutritive material of plants. So considerable an omission appeared to me to deserve a supplement; and accordingly I wrote an addition to the work, on the deficient article, which I have forwarded to the author in Ireland. It is very remarkable that so obvious and well known a substance as this should have escaped the particular notice of agriculturists so long."—Transactions, vol. 1, p. 206.

After an acknowledgment of the receipt of numerous communications from the President of the British Board of Agriculture, Dr. Mitchell again observes,

"Finding in such publications as these and others that have from time to time come to hand, that one of the most operative ingredients in animal and vegetable manures (*azote*) was in a great degree overlooked or omitted by European writers, I deemed it worth the while to inquire into it a little more particularly myself. In this undertaking there has been a development of much new and precious information."

"Fortunately, in prosecuting the subject, the important, though much neglected science of Chemistry, which in my earlier days I had studied with some care, enabled me to labor on through discouraging and seemingly insuperable difficulties. The composition and qualities of soils and manures being only to be understood and explained upon chemical principles, there was a necessity of reviewing what had been done already, in order to comprehend what remained to be done."—Trans. p. 207.

By the means of chemistry then, we learn from him, that "the analysis of corrupting bodies has been more carefully attended to; and of course a more correct idea of the nature and qualities of the manures formed from these, has been obtained. Among other things it has become manifest how the septon (*azote*) or principle of putridity, is evolved or set loose on the earth's surface."

"On tracing the progress of putrid bodies and their unwholesome vapors from their origin and duration to their decline and extinction, it has been sufficiently ascertained that by means of the vegetable economy, the substance whence offensive and noxious steams proceed, are decomposed or taken out of circulation and manufactured anew into forms replete with organization and life."

"Thus the subject of manures when well understood, explains the occasional epidemic influence of the atmosphere, as well as the growth of vegetables and many of their peculiar qualities; and these again, when fully comprehended, reflect light upon the economy of farming, in their use and application; upon the police of cities, in preventing their baneful vapors from getting afloat in the air; and in the healing art by enabling its practisers to prescribe and direct by sure rules what in a given case ought to be done. These new views of this branch of science, have shown a more intimate connection than ever was before known to exist between meteorology, farming and physic."—Trans. p. 209.

Again, it is worthy of notice that this acute observer of nature detected the acidity of manures and soils, and the means of correcting or neutralizing them, showing too, how offensive and deleterious substances may be rendered inert and harmless in relation to the health of human beings and animals, while at the same time they nourish vegetation. Hear what he said on these subjects, as far back as 1798:

"The acid nature of most animal manures and their exhalations, owing to a junction of the principle of putrefaction with a portion of oxygen, is of itself a most interesting discovery. But the inferences from such a fact are of a still more extensive and beneficial kind, and by showing the use and operation of *alkalies*, let us know how they are useful in combining with the acids inherent in the soil, and wafted through the air in a volatile form, and in both cases have a sweetening and neutralizing operation. Hence it may be inferred we are not far from possessing a true theory of lime, ashes, and calcareous earth, and of solving the problem which has puzzled inquirers so long, and which no European writer appears to have rightly understood."—Trans. p. 210.

Thus much from Dr. Mitchell's second address before the old Agricultural Society. In this, he refers to his letter "On Septon," which is published in the volume of Transactions of the Society (p. 245) and though written before his address, it is connected with it on the all important subject of manures. It is headed by the author in the following words:

"On SEPTON, (*Azote*) and its compounds, as they operate on plants as food, and on animals as poison; intended as a supplement to Mr. KIRWAN'S pamphlet on manures. In a letter to the Rev. Dr. HENRY MUHLENBERG, of Lancaster, Pa., from Mr. Mitchell of New-York, dated October 24th, 1796."

We must here premise that Dr. Mitchell was at this period, (1798) Professor of Chemistry and Agriculture in Columbia College, New-York city; that he had studied Chemistry under Dr. Black, a celebrated professor of that science in Edinburgh (Scotland,) and who was the discoverer of *Carbonic acid gas*, which he called *fixed air*, because he found it fixed or in a solid state in limestone. About the time that Dr. Mitchell left Scotland, with the honors of the University, (1786) the new chemical doctrines and nomenclature of Lavoiser were promulgated, and to him we are indebted for the terms *oxygen*, *hydrogen*, *azote*, &c., still in use. When the subject of this communication was appointed to a Professorship in Columbia College, although he had an exalted opinion of Dr. Black, he adopted the nomenclature of the French school as best adapted to convey correct information and precise ideas. In the course of his scientific researches and investigations, however, he suggested several alterations of the terms introduced by Lavoisier, and *Septon* was employed by him instead of *azote*. The irrespirable part of the atmosphere which the French Academicians termed *azote*, other chemists have named nitrogen, as one of the constituents of nitre, and both are used at the present day. Nitre or salt-petre, is a product of putrefaction, and the *azote* it contains, Dr. Mitchell named *Septon*, from a Greek word signifying to putrify. He

considered it the destructive agent in producing sickness and death when human beings were exposed to the exhalations of masses of animal and vegetable substances in a state of putrefaction. Septon he considered an elementary substance capable of entering into numerous combinations, and by uniting with oxygen forming *Septic acid*, and this when associated with potash producing *Septite of potash* or common salt-petre.

This explanation is necessary to understand his remarks on Septon as a manure. We may consider the terms *Azote, Nitrogen and Septon*, as equivalent terms. Other chemists have not adopted the word Septon, but Dr. Mitchell made it the agent in explaining his ideas of the action of pestilential fluids and the operation of manures.

Further remarks on Septon or Azote as a manure, must be deferred to our next number, lest we encroach too much on the columns of the Cultivator and the patience of its readers.

Staten Island, July 5, 1844.

We are now, Mr. Editor, in the midst of our harvest, being somewhat earlier than last year. The season has been favorable, and crops look well. Wheat, rye, barley, oats, corn, grass and potatoes all have a promising aspect. I began my hay harvest on the 24th of June, and wheat is this day falling into the cradle, one week earlier than in 1843. Respectfully yours. RICHMOND.

HABITS OF THE CURCULIO.

The late Willis Gaylord in his treatise on "*Insects injurious to the Farmer and Gardener*,"* says, "The plum tree, both in its fruit and its wood, seems peculiarly liable to the attacks of insects. The principal of these, is the *Rhynchaneus nenuphar*, or plum weevil. Did [this] beetle confine its ravages to the fruit of these trees alone, the damage would be small, compared with what it actually is; since not only the fruit, but the tree itself is frequently killed by them. Every one conversant with fruit, has observed the black unsightly masses that collect on branches of the plum tree, some varieties of the cherry tree, and in some cases in swellings or gummy protuberances on the peach tree. These are occasioned by the same insect as that which destroys the fruit."

This opinion of my late respected friend was not peculiar to him, for the same has been advanced by other writers, though doubtless without sufficient evidence. The curculio had been very troublesome in this vicinity for thirty years before I observed a single excrescence on any plum tree, though I had frequently heard of this malady at the eastward, and was apprised of its advances in this direction. Now to a mind capable of appreciating the force of evidence, these facts must be conclusive against that opinion, unless the curculio has recently acquired this habit.

Circumstances tend to show however, that the curculio has not acquired this habit. I have not observed the "Black Gum" to spare any variety of the plum in my possession, neither does the curculio spare the fruit; but there are many trees on which I have detected this insect in great numbers, year after year, and yet not an excrescence has been produced. What then is the inference? Why, that the curculio never causes an excrescence, though possibly it may deposit a nit in the tumor when it has arisen.

In the same valuable treatise, to strengthen that position by analogy, a remark of Kollar's has been brought forward: that the plum weevils of Europe, in default of plums, make use of the soft spring shoots of the plum and apricot trees. So different however, are the habits of different species, that the charge against our little neighbor, must receive very little support from this suggestion; and more especially when plums in abundance, unpunctured by the curculio, are found on the same branches with the "black gum." Here there is no "default;" and it proves clearly, in my opinion, that this excrescence is a different and separate concern, caused doubtlessly by some other insect.

Further,—It is very questionable, if the plum tree is disfigured by the same insect that destroys the cherry

tree. It has now been several years since the "black gum" first appeared in this neighborhood; and though I have many kinds of the cherry, including the morello which has suffered so much in the southern parts of Pennsylvania, yet I have never discovered a trace of this malady on any cherry tree in this district.* D. T.

Greatfield, Cayuga co., 7 mo. 18, 1844.

ANALYSES OF GUANO.

Laboratory of the New-York Agricultural Institute, }
University of New-York, Aug. 16, 1844. }

The arrival of guano from the African coast, in large quantities, into New-York, has induced the Farmer's Club to require of me an analysis of the article, and remarks upon its value, as compared with that from Peru.

I would have been content with selecting for the Club the analyses given in the Chemical Gazette and Jameson's Journal, had not an inspection of those labors developed a remarkable difference between the African and Peruvian specimens, so great as to call forth a doubt on the part of Dr. Draper and myself as to the accuracy of the examinations. To test the matter, and assure myself on this point, I proceeded to a fresh analysis, and have now the honor of submitting my results to your numerous readers.

Analysis of African Guano.

Oxalate of ammonia,	16.0
Phosphate, muriate and carbonate of ammonia, with animal matter,	12.0
Humic acid,	4.0
Oxalate of lime,	10.0
Phosphate, sulphate and muriate of soda and potash,	8.5
Phosphate of lime and magnesia,	36.5
Silica from the crop of the birds,5
Water,	12.5
	100.0

The specimen had a specific gravity of 1.5 and was soluble to the extent of 45 per cent, of a light brown color, and covered with spots of white, increasing in size as the guano became dry—all of which signs indicated its excellence.

The analyses of Dr. Davy, Mr. Francis, and Dr. Ure, are as follows:

	Davy.	Francis.	Ure.
Oxalate of ammonia with muriate, phosphate and animal matter,	40.2	32.89	34.0
Ammonia in a separate form,	—	9.70	9.5
Salts of potash and soda,	6.4	7.08	6.0
Phosphates of lime and magnesia,	28.2	22.32	18.5
Silica,	—	.81	0.5
Uric acid,	—	a trace.	3.0
Water, &c.,	25.2	27.13	28.5
	100.0	100.00	100.0

The point to which I referred as indicating a remarkable difference, is the absence of *uric acid* and *urate of ammonia*, which are the striking and valuable ingredients of Peruvian Guano. In my analyses, I tested 6 specimens, and could find no trace of those bodies, although incredulous as to their absence; Dr. Davy, (Sir Humphrey's brother,) also made numerous attempts to detect it in many separate examinations, but found it always absent. Mr. Francis was equally assured that it did not amount to 1.100th per cent. In Dr. Ure's analysis, 3 per cent is given, but with due deference to that experienced chemist, I may doubt whether he pursued his inquiry to the production of *purpuric acid*, without which the nature of the precipitate cannot be distinguished from *humic acid*, of which both Francis and myself obtained 3.5 and 4 per cent, whilst Dr. Ure does not mention its occurrence.

If there is a point settled in the varying composition of Guano, it is, that the African variety contains no Uric acid, whilst brown Peruvian contains from 10 to 25 per cent.

This question is not merely of chemical interest—it is all important to the farmer. For these salts, oxalate of ammonia in African, and urate of ammonia or uric acid in South American, severally represent the *expensive* and

* Since writing the above, I have been told of a cherry tree infested by the "black gum," some miles from this place. Perhaps it indicates the arrival of the same insect that has been so destructive in Pennsylvania.

to a great extent, the fertilizing ingredients of Guano. But whilst the oxalate (African) is very soluble in water, the urate is insoluble.

Hence the farmer who uses African Guano, may expect a rapid effect, but nothing that is permanent beyond crop, whilst the use of the Peruvian in England has already shown its effects to be apparent on a second and third crop.

In practice, analysis leads us to suggest the propriety of recommending the application of African Guano in small quantities, added at short intervals, rather than the use of the whole at once. For instance if 200 lbs. is to be applied to an acre of meadow, let it be divided into parcels of 50 lbs., and each scattered at intervals of a week, after rain or when it is expected. I should also be disposed to add rather less African than Peruvian Guano, in view of the great solubility of the former. The manure should be applied with three or four times its bulk of fine earth.

There are many other particulars interesting to the farmer and naturalist, connected with this difference in chemical composition, which are however, too long for your pages, and will be published (as requested by the Farmer's Club,) in a short Essay, which I will do myself the honor of transmitting to your office.

Yours respectfully, D. P. GARDNER, M. D.
Lecturer on Ag. and Analysis in the N. Y. Ag. Institute.

GREEN CORN FOR WINTER USE.

MESSRS. EDITORS—A correspondent in the July number of the Cultivator, inquires concerning the preparation of green corn for winter use.*

The following is the manner in which it is prepared in my family, of the merits of which he can judge by experiment.

Pluck the ears of green corn when fit for boiling, strip off the husks and throw the ears into a kettle of boiling water, leave them in until the water boils up over them, when they must be taken out. Shell off the corn by running the prong of a fork along the base of the grain, holding the ear with one end against the breast; this is better than cutting off with a knife, inasmuch as it is more expeditious, and saves all the grain, including the heart or germ, which is the sweetest part.

After being thus prepared, it must be spread out thin on cloths in a shaded, airy place to dry; it should be stirred every day until thoroughly dried. When cooked, it should be put in cold water and boiled an hour or more; the water to be pretty well boiled off. When the water is nearly off, a little milk added to it will improve the taste. Respectfully yours, M.

Shawangunk, July 29, 1844.

THE GOPHER OF FLORIDA.

EDITORS CULTIVATOR—On page 209 of the present volume of your very valuable paper, I observe an article headed, "To kill Gophers, &c." credited to the Prairie Farmer, with a few lines of editorial, from which it would be inferred you believed the Gopher to be a species of the mole. This surprises me, knowing the Gopher to be an animal peculiar to the south, and have always supposed the word Gopher to be of Creole origin. The word, I apprehend, is unknown to naturalists as applied to an animal of any species, and can only account for the discrepancy in this instance by the supposition of the name being given or understood as applied to two animals entirely distinct in every particular.

The appellation is applied to an animal of the turtle species found south and west of the Savannah river, Ga. (it is worthy of remark they are not to be found north of it) along the Gulf coast within the region of the long leaf pine barren to the Mississippi, and for aught I know, much farther west. It differs materially from the Terapin common in the west and perhaps throughout the country.

They are usually about ten inches long and weigh

* There is a Dutch name for this article, which I do not give because it cannot be spelled in English.

from five to eight pounds, very inoffensive and slow in gait, living on grass, and whatever may be found in their rambles of a vegetable nature. Holes are made by them in the earth at an angle of forty-five degrees, sometimes to the extent of ten feet; after arriving to a certain depth however, the avenue is level with the surface of the earth to which they resort for incubation and protection.

At Pensacola particularly they are much esteemed as an article of diet, and are preferred by caterers of the mess aboard public ships to fowls of any kind, being equal in flavor and taste, and living much longer at sea. They are caught when hunted and scarce, in pits dug at the mouth of the holes, lined with bark and covered slightly so as to break under their weight. They are never found nearer than a mile or two from any habitation or cultivation. Having wrested the Gopher, which, when well prepared is no mean dish, from the poisonous arsenic of Mr. Sherfry, I might close my letter with a simple expression of kind feeling for you, Mr. Editor, and all lovers of the science of Agriculture, but in justice to Mr. S. will state that his prescription will be well received by the farmers of this country to destroy a little animal very destructive to seeds and roots, of the rat species, called the Salamander. This little pest is very shy, and is rarely seen by man.

Is there not a breed of cattle called the Galloway, without horns? For the sake of humanity, recommend them to J. S. on page 227, to relieve him of such barbarous practices, and your readers the pain of their recital. Oakley Hill, Florida, 24th July, 1844. G. F. B.

There are four or five breeds of polled, or hornless cattle, one of which is the Galloway. They are considered very good stock, and we second the humane suggestion of our correspondent. Eds.

POLITICAL ECONOMY.

MESSRS. EDITORS—Many of your readers must have been greatly surprised by the communication of Dr. BATES, in your last number, calling in question what all the world have heretofore considered a self-evident truth, and one of the great corner-stones of every true system of political economy. It has been the motto of success, whether to nations or individuals, since the world began, and so will be to the end of time.

Your correspondent says there appears to be a "fog" about the matter; and so there is, if his logic be true. But it is more specious than sound, as may be shown easily. He illustrates through a Vermont waggoner; but went no further than suited his theory. Let us go a little further, and suppose the waggoner over-traded; that is, took away some of the ready cash of his town or family, besides the "notions," and brought back groceries to the whole amount, consumed them, and went again, and so kept on exporting, importing and consuming, how long would it be till that town or family came to poverty and want? This would be the inevitable result; and no one would look for any thing else. Now this is a plain case of imports exceeding exports.

But while in his last sentence, he admits the true doctrine, viz. "that a nation or individual who consumes more than they produce, must grow poor," yet calls it a "sophism," "sheer nonsense," &c. when spoken of as imports and exports. What are our exports, but our produce; and our imports, but articles of consumption? The idea is apparently held out that we can buy something which we do not want to consume, which would be another gross violation of one of the first rules of economics, "buy nothing which you do not want."

We are also given to understand that there is nothing so very frightful in having the balance of trade against us; and he intimates that the doctrine is false, that we are 400,000,000 poorer than we should be, because we have over-traded to that amount, as shown by the Treasury tables. Now we have paid for these goods by our labor and consumed them. No doubt they were luxuries, and much more might be put to the same account. Suppose we had practiced a little more self-denial; would not the fruits of that labor be yet in the country? We should have it in some other shape; say, more improved farms more manufactories, and better ones; and a better de-

velopment of all our natural resources. Would we not be just so much wealthier, and yet possess that which is now consumed and gone. If we had been thus economical, sufficient capital would have remained in the country for the construction of all our public works, and to have taken all the loans for which we are now indebted to Europe. We have certainly been extravagant, and just as certainly are poorer than we should be, Dr. Bates to the contrary notwithstanding.

But after all, the whole "fog" in this matter, lies in the question as to the place of valuation. Transportation to market, is part of the labor which gives value to exports. Till this is added, the valuation is not ready to be settled. Dr. Bates does this at home. It should be at the place where he buys and sells. The "waggoner" should do it at Boston. He has then put all his labor to his "notions," and is ready to balance the account. This is the universal practice, and is in exact accordance with our axiom, which has been so rudely assaulted and mystified, by changing the place of valuation, and kicking up a dust about "transportation," "ships," "wages of men," &c.

But once more, and I have done. Let a stranger go through this transaction. He buys the "notions" for \$100, carries them to Boston, sells for \$125, (freight now being added,) comes back with groceries to that amount, sells out for \$150, including transportation homeward, profits, wear and tear, &c. He has got back the \$100 left there at the start, and the villagers find themselves minus \$50 of their former savings beside. They have the groceries, it is true, for that amount, and use them; and thus they have consumed \$50 more than they produced, and such, Dr. Bates says, must certainly grow poor; and so say all—but all cannot see how he can thus trifle with the same truth in other words, and raise a mist and "fog" about matters hitherto plain, and thus repel inquiry into one of the most interesting departments of human knowledge, by making it seem a disputed matter.

Hackettstown, Warren co., N. J.

A. R. D.

THE CATALPA—TIMBER FOR POSTS.

I never see a Catalpa tree, that it does immediately recall to my mind a fact stated by the late Gen. W. H. Harrison in an Address before the Hamilton county Agricultural Society of Ohio in 1831, that the Catalpa is more lasting than either the locust or mulberry for fence and gate posts. Many portions of our country, new as it is, owing to the heedless waste and profligate use of every kind of timber, together with the utter neglect everywhere of any measures for re-production, are already nearly without the necessary supply for common fencing. Indeed there are some places where fence timber cannot be obtained except by importation from distant places. As long ago as in 1820, the writer of this traveled through several counties in the middle States, where nothing but boundary fences were thought of, and the public roads were crossed on the line between every two farms, by gates, which the traveler was obliged to open and close in passing. These gates were permitted by law, owing to the deficiency of timber for fencing the fields bordering on the roads. It is believed the same state of things still exists in that part of the country. Now in a country like this, such a want of timber ought not to exist. Every owner of land on which there is a scarcity of timber, should plant the several kinds of seeds and take care of the young plants till they can take care of themselves; or permit spontaneous growths to grow, and thus secure the necessary supply of timber. But to the Catalpa. In the address above mentioned, Gen. Harrison said, "The wood of the Catalpa affords perhaps, a more lasting material than either that of the locust or mulberry; is of a very quick growth, and easily cultivated. Its ability to resist decay has been sufficiently tested in the neighborhood of Vincennes, both under ground and in contact with it. Over the little stream of the Desha, five miles from Vincennes, one of these trees had fallen before any emigration had taken place from any of the States, to that place. It was certainly lying there in the year 1785, when a colony of Virginians, from the south branch of the Potomac, emigrated to that place, and

for many years served as a foot bridge over the stream. I was informed by a gentleman of undoubted veracity, that it was only partially decayed a few weeks since, (that is in the spring of 1831.) The same gentleman, (Dr. Hiram Dickson,) informed me, that a bar post which was made by his father, and put in the ground at a little stockade work, which was erected in the year 1770, and which has been taken up and removed to his own farm, by his brother-in-law, Major Andrew Powell, is still sound, and answers the purposes for which it was originally intended." The late Col. Philip Tabb of Gloucester county, Virginia, one of the best farmers in that State, also long used the Catalpa for gate posts, and considered them certainly as lasting for that purpose, as any timber he had ever tried. Now the Catalpa can be grown from seed as easily as Indian corn; the seed can be obtained in great abundance, and I know of no tree that grows so rapidly; I have frequently seen plants come up from the seed in the spring, and attain a height of four or five feet the same season; and in three seasons they often grow twelve to fifteen feet in height. In good rich ground, I have no doubt they would grow six feet each season. If planted three or four feet apart for the first three years, they will grow as straight as reed poles. The fourth season they may be set out at proper distances for the formation of timber. Throughout the middle, western and southern States, the Catalpa is perfectly hardy; I presume it is not so in the northern and eastern States. But there is a sufficient inducement in the former for the cultivation of it. On the prairies of the west it would be an invaluable acquisition, the soil and climate being well adapted to its rapid growth, and I am sure there are few subjects to which the attention of our western friends can be called, of more importance than this. It is well known that the destructive borer is rapidly destroying all the locust timber of our country, and a timely and equally valuable substitute may be found in the Catalpa, in the extensive region indicated. So far as my observation extends, no insect whatever attacks it, either in the wood or the leaf. It is also pretty well known that chestnut requires a peculiar soil, and does not generally thrive well except on "chestnut ridges." It cannot be expected that the growth of this tree will be much extended. The white and red mulberry it is true, thrive well everywhere; but they are nothing like the Catalpa for facility and rapidity of growth, nor are they as lasting, if the opinion of Gen. Harrison be correct. The writer of this is acquainted with one fact in relation to the white mulberry, that shows its qualities as ship timber. The frame timbers of the oldest steam-boat now in the Chesapeake Bay, the *Maryland*, are of white mulberry. There was a large plantation of white mulberry trees near Annapolis, planted it is said by the French refugees. The owner of the plantation many years ago, cut down most of the trees, and they were used in building the steam-boat *Maryland*. This boat I should suppose, is 25 years old, and I understand her timbers are still sound. G. B. SMITH.

THE BLACK RASPBERRY.

MESSRS. EDITORS—I would advise farmers to set out in their gardens, two or three dozen of the White Antwerp and Black Raspberry, the latter of which may be found wild in many places in this State. They yield a large and beautiful fruit, to be eaten from the bushes, or as a dessert on the table. When cultivated in gardens, they grow very large; the dark red and polished stalks rise from three to six feet from the earth, then bend over in graceful circles to the ground, on coming in contact with which, the end inserts itself in the soil, forms a new root, and sends up a young shoot for fruit the next year; as sweet as the nicest tooth could desire, likewise making an ornamental appearance. The abundance of fruit which they produce is astonishing. Mixed with a little cream and sugar, they present upon the table a dish that would do honor to the most exalted guest. Therefore brother farmers, try it, and in a few years you will be richly repaid by your shrubbery. Yours,

Shoreham, Vt., May 20, 1844.

DOUBLEYOU.

Instead of spending a rainy day idly, repair whatever wants mending, or post your accounts.

CULTIVATION OF FRUIT—No. IX.

THE PLUM.

Those who have seen only the common varieties of the plum cultivated by farmers in this state, can have but a very imperfect idea of the flavor and excellence of the most improved varieties. When the same labor in cultivation, with a little additional care in procuring fine sorts, would afford the very best fruit, it is to be regretted that ninety-nine hundredths, or even more, of the fruit cultivated, should be scarcely fit for eating. To facilitate in procuring better, the following list, with remarks, is given.

White Primordian, Early Yellow, or Jaune Hative, is one of the very earliest of plums, ripening generally in western New-York about the middle of the seventh month, (July,) and is chiefly valuable on this account. It is a small yellow fruit, a good bearer, with a sweet taste, though not first rate. It appears to be the best plum at the season.

Wilmot's Early Orleans.—This is a large fine fruit, ripening early in the eighth month (August.)

Green Gage.—This is generally admitted to be the finest of all plums; the genuine fruit is of medium size, and round; the stalk half an inch long, a little bent, and inserted in a small funnel-shaped cavity; the skin is yellowish green, when fully ripe nearly yellow, mottled with russety red near the stem; flesh melting, separating imperfectly from the stone, juicy, sugary, and of exquisite flavor. There are many varieties cultivated in this State under the name of Green Gage, which appear to have originated from stones of the genuine variety, but are greatly inferior in flavor. There are other varieties of a small green plum, scarcely worth cultivating, which are frequently found in the gardens of our farmers, and are also denominated the Green Gage, though they no more resemble the genuine fruit than the wild crab resembles our finest varieties of apples.

Prince's Imperial Gage was obtained from the seed of the Green Gage; the fruit is much larger than that of the Green Gage, and the tree is very productive. Manning says that this is "the most productive and profitable of all plums." Kenrick says, "a single tree of this variety at Charlestown (Mass.) owned by S. R. Johnson, has for several successive years yielded crops which were sold at from \$40 to \$50 per annum." Some trees in western New-York, called by this name, are not genuine.

Orleans.—Fruit nearly round, middle sized or rather large, skin reddish purple, flesh yellow, firm and good, separating freely from the stone. An excellent fruit, ripening about the time of the Green Gage.

Gifford's La Fayette, figured and described some years ago in the Genesee Farmer, was obtained from the seed of the Orleans, and is an excellent fruit, remarkable for the richness and sprightliness of its flavor.

Huling's Superb.—Fruit very large, often two inches or more in length, not inferior in richness, but more acid than the Green Gage—of very vigorous growth, and of extraordinary excellence.

Washington.—Fruit oblong, very large, orange yellow, with a fine blush next the sun; flesh yellow, firm, sweet, and excellent. Though the flavor of this is inferior to that of some other varieties, it is highly esteemed as a first rate plum. Ripens about a week later than the Orleans.

Imperatrice.—A good plum, ripening in the tenth month (Oct.) One of the best late plums.

Coe's Golden Drop.—Fruit of large size, skin golden yellow, spotted with rich red next the sun, flesh yellow, sweet and delicious. Like the preceding, slightly necked next the stem, a clingstone, and a great bearer. The best late plum. The writer has measured them more than 2½ inches long.

The Egg Plum, or Yellow Magnum Bonum.—Is a very large plum, of a sweet agreeable flavor, but as the texture is rather coarse, is chiefly used for cooking and preserving. The same remark applies to the *Red Magnum Bonum*, which is harsh and acid. These two are admitted as table fruit where finer varieties are unknown.

The plum is propagated by budding or grafting. The

former can only be successfully practiced on the most thrifty stocks.

The principal enemy to the plum is the *Curculio*. This is a small insect with an elongated thorax and head which resembles a proboscis in appearance. The whole insect is not more than a quarter of an inch long, of a dark brown color, the sheaths covering the wings, slightly variegated with lighter colors, the body resembling in size and appearance a ripe hemp seed. About the time the fruit attains the size of a large pea, it commences its work of destruction. It makes a small incision in the young fruit and lays its egg in the opening. Its presence may now be perceived by examination, as these crescent-shaped incisions are very easily seen. The egg soon hatches into a small white worm, which penetrates deeper and feeds upon the fruit, causing it to fall prematurely to the ground, or if it ripens, it is unsound and gummy. The worm, when the fruit falls, makes its way into the earth, where it remains through winter, as is supposed in the pupa state, to be transformed the succeeding spring into a perfect insect and thus to perpetuate its race. Several expedients have been proposed and tried, to destroy it or prevent its ravages. The easiest and most effectual is that of confining a sufficient number of swine with the trees, to eat all the injured fruit which falls, in doing which, they destroy the worm before it can escape to the earth. The crop of the succeeding season will of course escape. When this has been pursued perseveringly and thoroughly, it has proved completely successful. In one instance, known to the writer, the plum trees bore well for seventeen successive years. To render this operation easy and effectual, all trees which are liable to attacks of the *Curculio*, should be planted separately, so that they may be enclosed apart for the confinement of the swine, which if permitted to range the whole orchard would not do the work so effectually.

But swine cannot always be admitted, and it is also desirable to preserve the fruit of the *present* season. In this case, the best remedy is the following. Spread white sheets under the tree, and jar it briskly. The insects immediately drop upon the sheet, and remain motionless a few seconds, during which time they may be destroyed by a pinch of the thumb and finger. While lying upon the sheet, they are not readily distinguished by an inexperienced eye from the withered blossoms. The operation should be repeated twice or three times a day so long as any remain. This remedy rarely fails if thoroughly and unremittingly pursued. The importance of *jarring* the tree strongly, will be perceived by the following statement of a correspondent in the Genesee Farmer in the second volume. "Not three days ago, I saw that many of the plums were punctured, and began to suspect that *shaking* the tree was not sufficient. Under a tree in the remote part of the fruit garden, having spread the sheets, I therefore made the following experiment: On *shaking it well*, I caught five *Curculios*; on *jarring it with the hand*, I caught twelve more; and on *striking the tree with a stone*, eight more dropped on the sheets. I was now convinced that I had been in an error; and calling in the necessary assistance, and using a hammer to jar the tree violently, we caught in less than an hour, more than two hundred and sixty of these insects."

Trees near path doors and other frequented places, are frequently observed to be full of fruit, while others are all destroyed. The insect is frightened away from the former, by frequent passing. Hence favorite trees of the plum, nectarine or apricot, may be often planted to advantage near such frequented places, and the fruit will escape. The black excrescences on the branches of the plum may be prevented by a constant and vigorous excision of the affected parts, and burning them as fast as they appear.

The plum is by some cultivators regarded as only fitted for heavy or clay soils; and some striking instances are given in proof. But the writer has seen trees in abundant bearing year after year, and yielding fruit of the finest quality, on light or sandy soils. A porous earth may possibly furnish a better retreat for the *curculio*; but to what extent this may be true, requires further examination.

J. J. T.

Macedon, 8 mo. 15, 1844.

LABELS FOR STANDARD FRUIT TREES.



Great convenience is found, in large collections of fruit trees, in permanent names of the variety attached to each tree, and various modes of marking have been adopted. The best we have used, is a small slip of wood, two or three inches long and half an inch wide, suspended by a wire loop to one of the horizontal branches. The most suitable wood is red cedar; a block of it should be bored through one end with a small gimlet or carpenter's bit, so that when afterwards split into labels, a hole is left at the end of each for inserting the suspending wire. The best way to mark the name is to rub on a little white lead paint with the finger, and write immediately with a black lead pencil, which will last many years. Copper wire is best for the loop—it should not be less than a large pin or the fortieth of an inch in diameter. If of much less size, it will be repeatedly bent by the rattling of the label in the wind, and finally crack off. Iron wire soon becomes rusted, and brass is too stiff. A piece of wire seven or eight inches long should be attached to each label; and if placed on a small branch, it will be many years before the wire, by the growth of the branch, will cut into it. Twenty-five cents worth of copper wire will be sufficient for one hundred and fifty trees.

Metallic labels, with stamped letters, are more durable, but are attended with more cost and trouble. We have those made of wood as just described, which were marked five years ago, the letters still remaining distinct, although the paint and a part of the wood around the letters have worn away.

J. J. T.

THE ROCK RIVER COUNTRY.

MESSRS. EDITORS—When I reflect and compare the great advantages, this Rock River country holds out to settlers who seek to better their position, it is a matter of surprise they go elsewhere in the west, while there is room in this fertile region, with an admirable climate both for comfort and health. Here there are no overflowing floods nor baneful diseases to mar their prospects. The roads are always good and crops never fail. The present season is in proof, during which we have had about 50 days rain, (pouring liberally most of the time) out of 90 days—yet the crops are good in quality, and only reduced 25 per cent. of a fair average in quantity. The land is of the richest kind, lies elevated with gentle slope, rolling, &c. Persons of all tastes may be gratified in choosing their locations—so may be those who seek only the useful, as well as those who seek the beautiful, and they may be admirably combined in large or small farms. For persons of taste and wealth, who would seek pleasure in retirement in the richest and most seductive country on the globe—here is the spot to gratify their desires and amuse themselves with agricultural pursuits, raising of sheep and other stock (at an annual cost of less than one-quarter of what the expenses are in the old states) and eventually leave rich inheritances to their children in the improved farms, and the greatly increased value of them, that will take place ere ten or fifteen years have passed. Then the sports, field sports I mean, and fishing in our beautiful river, well stored as it is with a great variety of good fish, and above all the liberty one so rationally enjoys here, with rides and drives over the verdant and smooth prairies, uninterrupted with fences or even tracks, inhaling increase of health and spirits every moment. Indeed the winds here are more delicious than the land breeze of the tropics. Come and see.

W.

CATTLE-SHOWS AND PLOWING-MATCHES—A communication from Mr. MILO D. CODDING, of Rochester, on the subject of the regulations to be observed at cattle-shows and plowing-matches, came too late to admit of an insertion in the present number. We regret that it

did not reach us a few days sooner, as the occasion for its publication will have passed away, before the issue of our next number.

DEVON CATTLE.

HAVING had frequent enquiries last season for Devonshire Cattle, I now have the satisfaction to state, that I can accommodate those who wish, with some good Calves, Yearlings or Two-year-olds, Bulls or Heifers.

E. P. BECK.

Sheldon, Wyoming Co., July 1844.—21.

KENTUCKY BLUE GRASS AND HEMP SEED.

GEORGE, LAPPIG & CO.

Seed and Agricultural Merchants, Louisville, Kentucky,

KEEP constantly on hand a good supply of Kentucky Blue Grass and Hemp seed, which they are willing to sell to eastern dealers on favorable terms. They are also dealers in Millet, Clover, Timothy, Orchard Grass, &c.

july—21.

GREAT SALE OF ELECTORAL SAXON SHEEP.

THE undersigned will sell at vendue the two flocks of *Pure Electoral Saxon Sheep*, belonging to the estate of the late Henry D. Grove, as follows:

1. That at Grainger, Medina co., Ohio, consisting of about 400 sheep, on the farm now occupied by them, on the 30th of September next.

2. The home flock, at his late residence in Hoosick, Rensselaer county, N. Y., consisting of about 350 sheep, on the 15th of October next.

A rare opportunity is offered to those who may be anxious to improve the quality of their flocks. The following is the opinion of the distinguished manufacturer who has usually purchased Mr. Grove's wool, of the character of these flocks:

"The purest blood in this country was introduced by the late Mr. Grove in his own flocks, the wool from which I have been familiar with since their importation in 1827. In point of fineness and admirable felting qualities, this wool is unsurpassed by any flock in this country, and the fleeces average about half a pound each more than any other I am acquainted with of equal fineness."

SAM'L LAWRENCE.

Lovel, April 9, 1844."

Terms of sale, cash.—Reference, Sam'l Lawrence, or either of the subscribers.

Buskirk's Bridge, April 20, 1844.

ELIZA W. GROVE,
W. JOSLIN,
S. A. COOK.

myl.—51.



FIELD SEED STORE.

THE subscriber continues to keep constantly on hand at his long established Seed Store, a supply of the best quality and kinds of Field Seeds, viz:

Red Clover, of the large and small growth,
Timothy, Red Top, or Herd's Grass, Orchard Grass,
Lucerne, or French Clover, White Clover,
Trefoil, Kentucky Blue Grass, &c. &c.

Also, the different varieties of Wheat, as White Flint, Red Chaff, Mediterranean, and English—for sale in lots to suit purchasers at moderate prices, by ISRAEL RUSSELL,

Feb. 1, 1844.—mar. oct.

26 Front-street, New-York

N. B. The following description of some superior English Wheat sown in the month of October last, the product of which will be for sale at the above Store, is given by a respectable English farmer in the State of New-Jersey, who sowed about eleven bushels, a sample of which can yet be seen. "It is called the Uxbridge White Wheat, and is the most noted Wheat they have in England, it being of fine quality, always commands a high price, as the flour is used by the biscuit bakers in London; it is great for yielding, and puts out a much larger ear than any wheat I have seen in this country. I saw when in England, three years ago, on my brother's farm in one field, 120 acres, that yielded 40 bushels and upwards to the acre. It grows very strong, and is not liable to be laid by heavy rains. I will warrant it free from any soil whatever. I did not see in the eleven bushels, a particle but Wheat; and I have sown it on Clover seed, on purpose that there shall be nothing but Wheat; and I will put nothing in the barn with it, so as to put it beyond the possibility of a doubt of its having any thing in it or getting mixed with other Wheat, which through carelessness is often the case. I have grown a great deal of it myself in England, and know from experience that for yield and quality, there is no Wheat to compete with it. Its general weight is from 64 to 67 lbs. per bushel. It is smooth chaff, and easy to thrash, which is not always the case with smooth chaff Wheat."

ADVERTISEMENTS inserted in the Cultivator, at \$1.00 per 100 words for each insertion.

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A FARM FOR SALE.

A VALUABLE FARM of 198 acres, situated in the town of Seneca and county of Ontario, State of New-York, in view of Seneca Lake and the flourishing village of Geneva, about two miles distant from both, from whence are daily communications by railroad and canal with Albany. The neighborhood is of the first respectability, the farm being principally surrounded by the estate of the late Gideon Lee, Esq., and the estates of the Messrs. Nicholas, the location is surpassed by none in western New-York. The land is of the best quality, adapted to grain and grass; not an acre but can be put under the plow; about 160 acres are perfectly clear and ready for the plow without a moment's detention; the balance is in wood, a growth of superior maple, beech, hickory, ash, &c.; the improvements are a good sized two story frame house, with kitchen adjoining; three barns, each forty by thirty feet, sheds, &c.; a well of the best pure water at the door. There is an extensive orchard of fine fruit, and a cider-mill and press. Also, on the north-west corner of the farm is a tenant house, barn, and an orchard of good fruit. If the above property is not disposed of at private sale before, it will be sold at public auction at the Franklin House in the village of Geneva, on the 25th of September next, at 10 o'clock, A. M., by order of the Court of Chancery, to close a mortgage. For further information apply to W. Cox on the premises, or if by letter, post paid, directed to him Geneva, Ontario county, N. Y.

W. COX.
 Geneva, August 19, 1844.—It*

STRAWBERRIES, &c.

WM. R. PRINCE & Co., Flushing, offer for sale, all the forty-eight varieties described and priced very low, in their Catalogue of 1843-4, 33d edition, among which are Swainstone, Garestone, British Queen, Victoria, Black Roseberry, Hovey's Seedling, Prince Albert, Ross Phoenix, Bishop's Orange, Myatt's Pine & Eliza, Melon, Keen's Seedling, Elton, Southborough, Downton, Warren's Seedling, Black and Prolific and Green Hautbois, Old Scarlet, Large Early Scarlet, Red and White Wood, and Red and White running and Bush Alpine, &c. Also, these additional new varieties, Crimson Cone, Bishop's Wick, Coul, late Scarlet, Turner's Pine, at \$2 per dozen. Orders not less than \$5, enclosing cash, will meet prompt attention. 500 Fastolf Raspberries, very large fruit, and very strong growth, and all other choice varieties. From now till November, the strawberries can be planted.

Prince's Lin. Garden and Nurseries, Flushing, Aug. 9, 1844—2t.

IMPROVED STOCK.

THE subscriber has now on hand and will sell, at fair and reasonable rates, several Durham cattle, consisting of cows, heifers and calves; also two bulls, a cross of the Durham and Ayrshire stock.

SOUTH DOWN SHEEP.—Two yearling bucks, several buck lambs and 16 ewes from 3 to 4 years old.

All letters, (post paid,) will be punctually attended to. Address

September 1, 1844.

C. N. BEMENT,
 American Hotel, Albany.

AYRSHIRE BULL FOR SALE.

A THOROUGH BRED AYRESHIRE BULL will be sold by the subscriber, at the coming State Fair. The animal is in excellent condition, rising six years old, handsome color, perfect and gentle. The dam was selected in Scotland from the very best Ayrshire stock.

Any farmer or breeder who is desirous of securing a very superior animal of this unrivalled breed, would do well to look at this animal before purchasing another, as he has been pronounced by competent judges, to be one of the very best in the country.

CHARLES STEEL.

Montreal, Canada E., August 20, 1844—1t.*

LINNÆAN BOTANIC GARDEN AND NURSERY,

LATE PRINCE'S.

Flushing, L. I., near New-York.

THE NEW DESCRIPTIVE AND UNRIVALLED CATALOGUE, not only of FRUIT, but also of ORNAMENTAL TREES, SHRUBS and PLANTS, cultivated and for sale, at reduced prices, at this ancient and celebrated Nursery, (the IDENTICAL premises known as PRINCE'S, and by the above title for nearly fifty years.)

WITH DIRECTIONS FOR THEIR CULTURE,

may be had gratis on application by mail, post paid, to the New Proprietors, who will endeavor to merit the confidence and patronage of the public, by integrity and liberality in dealing, and moderation in charges.

WINTER & Co., Proprietors

Flushing, August 31, 1844—2t.*

MOUNT HOPE GARDEN AND NURSERIES,

ROCHESTER, N. Y.

THE proprietors of this establishment, respectfully announce to the public, that their present stock of Fruit and Ornamental Trees, Shrubs, Plants, &c. which they offer for sale the coming fall, is very large and fine. The collection of the various fruits, for the garden and orchard, comprises the most popular and esteemed varieties known in Europe or America. The trees are handsome, thrifty and of the most suitable size and age for transplanting, and being propagated by the proprietors themselves with the most scrupulous care, either from bearing trees in their own grounds, or from others of undoubted genuineness, and being in every other respect, until they are sent from the nursery, under their immediate personal supervision, they can be confidently recommended to the most exact and scrutinizing cultivators.

The collection of fruits includes 1,000 Pear trees of the best varieties, selected in one of the best fruit nursery's in France, last spring, by one of the proprietors. They are grown on Quince stocks for dwarf pyramids, &c. and are now in a bearing state.

Also, 3,000 trees of the valuable native Apple, the "Northern Spy," one of the best keeping varieties cultivated.

The stock of Ornamental Trees, Shrubs, Roses, &c. is very large, and will be furnished at very moderate prices; where quantities are wanted for ornamenting public grounds, a liberal discount will be made. The collection of Roses includes 1,000 standards, 4 to 6 feet high, of the finest varieties of Province, Moss, Chinese and Noisette Monthly, Tea scented, &c. A large assortment of Dutch bulbous roots will be received from Holland in September, and furnished to amateurs, gardeners and agents on very liberal terms.

It is expected that all orders coming from persons unknown to the proprietors, will be accompanied by a remittance, or that some responsible reference will be given. Priced catalogues will be furnished gratis to all who apply post paid. Address

Rochester, N. Y. Sept. 1844—2t. ELLWANGER & BARRY.

P. S. 50,000 seedling apple stocks 2 years old, will be sold at \$6 to \$10 per 1,000, if application be made immediately. E. & B.

SUPERIOR FARMS FOR SALE.

TWO superior productive farms in Rensselaer county, 2 miles from Hoosic Falls. The farms are about one hundred acres each, and so situated as to be conveniently worked as two or one farm: each having the necessary buildings, and being judiciously divided into pasture and tilled land, all recently fenced with entire new materials in the most durable manner. The land is all of the first quality, and its present state of cultivation would bear a good comparison with any land in the county. These Farms will be sold together or separate, on terms most accommodating as to price and credit. Apply to Lansingburgh, July 16, 1844.

ALEXANDER WALSH.

FINE FARMS FOR SALE.

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